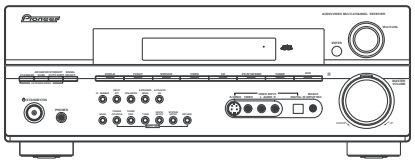
Pioneer sound.vision.soul

Service Manual



VSX-815-K

ORDER NO.
RRV3093

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-815-K
VSX-815-S
VSX-915-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
VSX-815-K	KUXJ/CA	AC 120V	
VSX-815-S	KUXJ/CA	AC 120V	
VSX-915-K	KUXJ/CA	AC 120V	

For details, refer to "Important Check Points for Good Servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
ⓒ**PIONEER CORPORATION 2005**

ZZK MAR. 2005 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

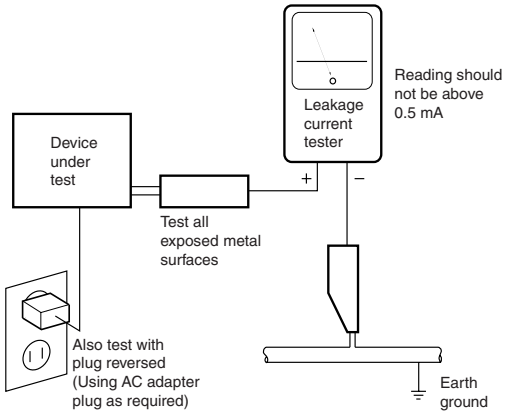
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SPECIFICATIONS

Specifications

Amplifier section

- **Continuous power output (stereo)**

Front:
VSX-815 . . .100 W (20–20,000 Hz, THD 0.7%, 8 Ω)
VSX-915 . . 120 W (20–20,000 Hz, THD 0.7%, 8 Ω) [1]

- **Continuous power output (surround)**

VSX-815 model:
Front . . . . . 100 W per channel (1kHz, 1.0%, 8 Ω)
Center. . . . . 100 W (1kHz, 1.0%, 8 Ω)
Surround . . . . . .100 W per channel (1kHz, 1.0%, 8 Ω)
Surround Back. . . . . .100 W per channel (1kHz, 1.0%, 8 Ω)
VSX-915 model:
Front . . . . . 110 W per channel (1kHz, 1.0%, 8 Ω)
Center. . . . . 110 W (1kHz, 1.0%, 8 Ω)
Surround . . . . . .110 W per channel (1kHz, 1.0%, 8 Ω)
Surround Back. . . . . .110 W per channel (1kHz, 1.0%, 8 Ω)

Audio section

- **Input (Sensitivity/Impedance)**

CD, DVR/VCR, CD-R/TAPE/MD,
DVD/LD, TV/SAT. . . . . .200 mV/47 kΩ

- **Frequency response**

CD, DVR/VCR, CD-R/TAPE/MD, DVD/LD,
TV/SAT . . . . . .5 Hz to 100,000 Hz $^{+0}_{-3}$ dB

- **Output (Level/Impedance)**

DVR/VCR REC, CD-R/TAPE/
MD REC . . . . . 200 mV/2.2 kΩ

- **Tone control**

Bass . . . . . ± 6 dB (100 Hz)
Treble . . . . . ± 6 dB (10 kHz)
Loudness . . . . . +10 dB/+5 dB (100 Hz/10 kHz)
(at volume level –50 dB)

- **Signal-to-Noise Ratio (IHF, short circuited, A network)**

CD, DVR/VCR, CD-R/TAPE/MD,
DVD/LD, TV/SAT . . . . . 96 dB

- **Signal-to Noise Ratio [EIA, at 1 W (1 kHz)]**

CD, DVR/VCR, CD-R/TAPE/MD,
DVD/LD, TV/SAT . . . . . 79 dB

Video Section

- **Input (Sensitivity/Impedance)**

DVR/VCR, DVD/LD, TV/SAT. . . . . 1 Vp-p/75 Ω

- **Output (Level/Impedance)**

DVR/VCR, MONITOR OUT. . . . . 1 Vp-p/75 Ω

- **Frequency response**

DVR/VCR, DVD/LD,
TV/SAT ⇨ MONITOR. . . . . 5 Hz to 7 MHz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio . . . . . 55 dB
Crosstalk 50dB

Component video section

- **Input (Sensitivity)**

DVD/LD, TV/SAT . . . . . 1 Vp-p/75 Ω

- **Output (Level/Impedance)**

MONITOR OUT . . . . . 1 Vp-p/75 Ω

- **Frequency response**

DVD/LD,
TV/SAT ⇨ MONITOR. . . . . 5 Hz to 40 MHz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio . . . . . 60 dB

Note

1 Continuous average power output of 110 watts* per channel, min., at 8ohms, from 20 Hz to 20,000 Hz with no more than 0.7%** total harmonic distortion (front).

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.
** Measured by Audio Spectrum Analyzer.

- **FM Tuner Section**

Frequency Range . . . . . .87.5 MHz to 108 MHz
Usable Sensitivity . . . . . .Mono:13.2 dBf, IHF (1.3 μV/ 75 Ω)
50 dB Quieting Sensitivity . . . . . .Mono: 20.2 dB
Stereo: 38.6 dBf
Signal-to-Noise Ratio . . .Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion. . . . . Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity. . . . . 60 dB (400 kHz)
Stereo Separation. . . . . .40 dB (1 kHz)
Frequency Response . . . . . .30 Hz to 15 kHz (±1 dB)
Antenna Input (DIN). . . . . 75 Ω unbalanced

AM Tuner Section

Frequency Range . . . . . 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) . . . . . 350 μV/m
Signal-to-Noise Ratio . . . . . 50 dB
Antenna. . . . . Loop antenna

Miscellaneous

Power requirements. . . . . .AC 120V / 60Hz
Power consumption. . . . . .360W / 480 VA
In standby . . . . . 0.5 W
Dimensions. . .16 9/16 (W) x 6 1/4 (H) x 15 7/8 (D) in.
420 (W) x 158 (H) x 402.5 (D) mm
Weight (without package) . . . . . .22.4 lb (10.2 kg)

Furnished Parts

Microphone (for Auto MCACC setup). 1
Dry cell batteries (AA size IEC R6). 2
Remote control 1
AM loop antenna 1
FM wire antenna. 1
Warranty card. 1
Operating instructions. 1

Note

Specifications and the design are subject to possible modifications without notice, due to improvements.

Cleaning the unit

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

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"DTS" ,"DTS-ES Extended Surround" and "Neo:6" are trademarks of Digital Theater Systems, Inc.

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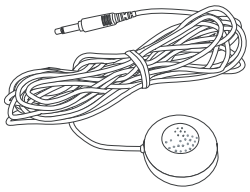
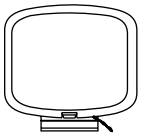
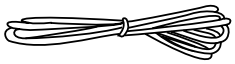
Accessories



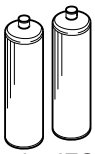
Microphone
(APM7006)



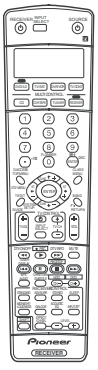
AM loop antenna
(ATB7013)



FM wire antenna
(ADH7030)



AA size IEC LR6
Dry cell batteries (x2)

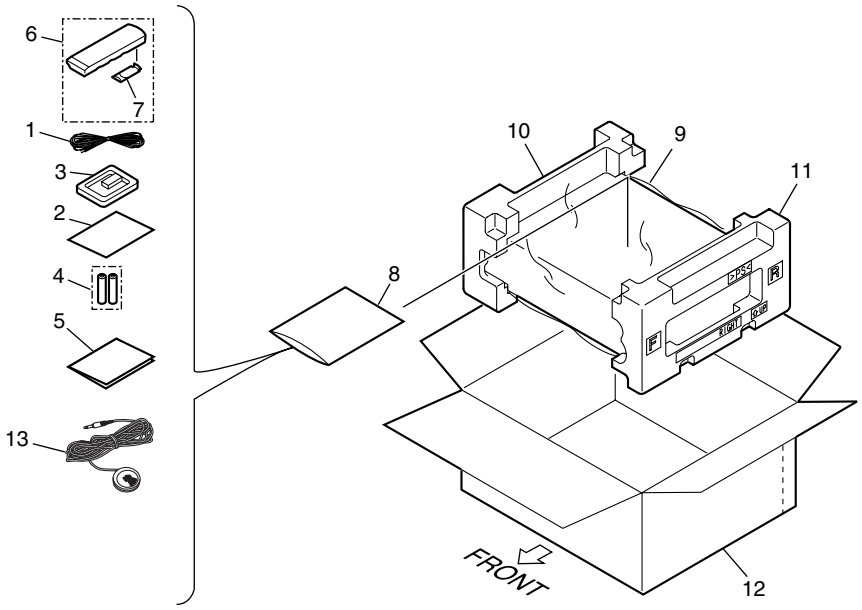


Remote control unit
(VSX-915 : XXD3083)
(VSX-815 : XXD3086)

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING PARTS LIST

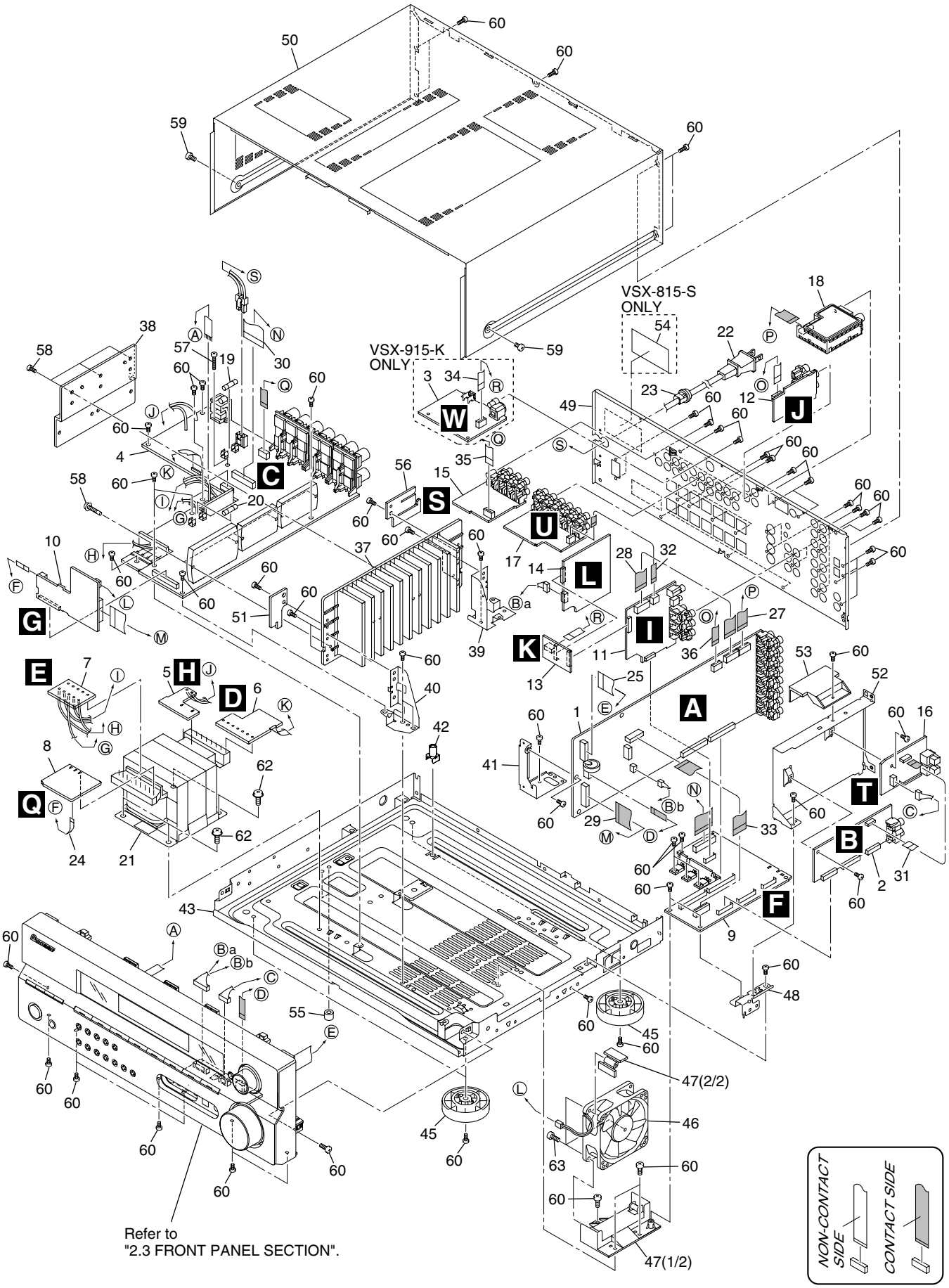
Mark	No.	Description	Part No.
	1	FM wire antenna	ADH7030
NSP	2	Warranty Card	ARY7045
	3	AM loop antenna	ATB7013
NSP	4	Alkaline Dry cell batteries (AA/LR6)	VEM1031
	5	Operating instructions (English)	XRB3047
	6	Remote Control Unit	See Contrast table(2)
	7	Battery Cover	XZN3140
NSP	8	Literature Bag	AHG1180
	9	Packing Sheet	AHG7069
	10	Left Pad V2	XHA3149
	11	Right Pad V2	XHA3150
	12	Packing Case	See Contrast table(2)
	13	Microphone Assy	APM7006

(2) CONTRAST TABLE

VSX-815-K/KUXJ/CA, VSX-815-S/KUXJ/CA and VSX-915-K/KUXJ/CA are constructed the same except for the following:

Mark	NO	Description	VSX-815-K /KUXJ/CA	VSX-815-S /KUXJ/CA	VSX-915-K /KUXJ/CA
	6	Remote Control Unit	XXD3086	XXD3086	XXD3083
	12	Packing Case	XHD3472	XHD3473	XHD3471

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

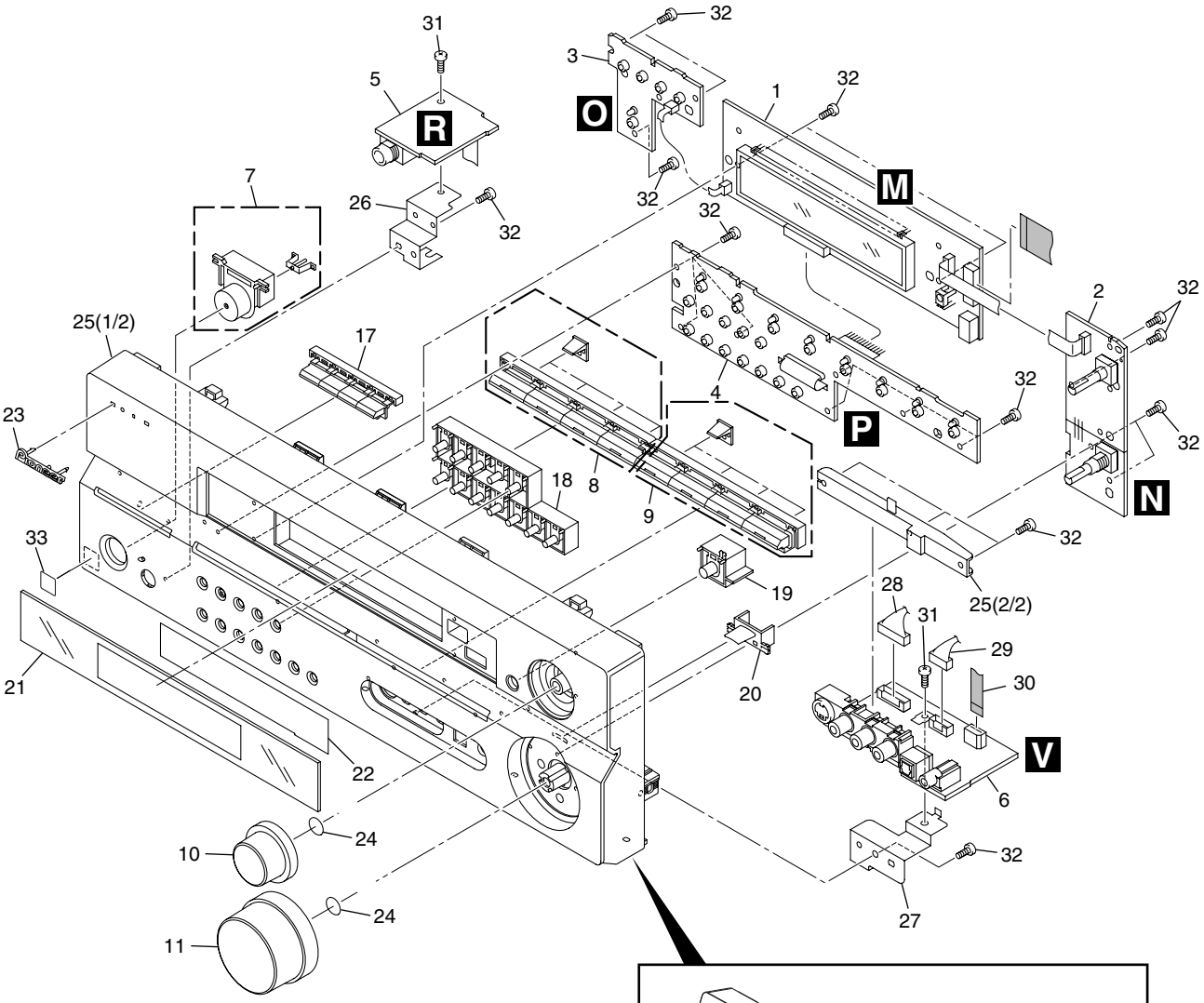
Mark	No.	Description	Part No.
	1	MAIN Assy	See Contrast table(2)
	2	DSP Assy	AWX8572
	3	VIDEO CONVERTER Assy	See Contrast table(2)
	4	AMP & PRIMARY Assy	See Contrast table(2)
	5	TRANS1 Assy	XWZ3958
	6	TRANS2 Assy	XWZ3959
	7	TRANS3 Assy	XWZ3961
	8	TRANS4 Assy	XWZ3936
	9	REGULATOR Assy	XWZ3953
	10	AMP INPUT Assy	XWZ3956
	11	VIDEO Assy	XWZ3907
	12	5.1CH INPUT Assy	XWZ3915
	13	B TO B Assy	See Contrast table(2)
	14	S. VIDEO Assy	See Contrast table(2)
	15	PRE-OUT Assy	XWZ3938
	16	DIGITAL INPUT Assy	XWZ3999
	17	COMPONENT Assy	XWZ3935
	18	FM/AM TUNER UNIT	AXX7172
⚠	19	FU1 Fuse (10A)	REK1087
⚠	20	FU701 Fuse (10A)	REK1087
⚠	21	Transformer 915KU	XTS3089
⚠	22	AC Power Cord	ADG7024
	23	Cord Stopper	CM-22C
	24	J22 3P F.F.C/30V	XDD3107
	25	J31 17P F.F.C/30V	XDD3118
	26	••••••	
	27	J33 13P F.F.C/30V	XDD3164
	28	J34 11P F.F.C/30V	XDD3163
	29	J35 21P F.F.C/30V	XDD3160
	30	J36 23P F.F.C/60V	XDD3167
	31	J37 10P F.F.C/30V	XDD3178
	32	J38 5P F.F.C/60V	XDD3166
	33	J43 15P F.F.C/60V	XDD3162
	34	J45 7P F.F.C/30V	See Contrast table(2)
	35	J46 8P F.F.C/60V	XDD3168
	36	J48 8P F.F.C/60V	XDD3165
NSP	37	Heatsink V2A39 CORR	XNH3033
NSP	38	Sub Heatsink	XNH3039
	39	H/S Angle Rear V2	XNG3133
	40	H/S Angle Front V2	XNG3132
	41	PCB Angle R5	XNG3073
	42	PCB Mold	AMR2533
NSP	43	Under Base V2	XNA3023
	44	••••••	
	45	Insulator	PNW2766
⚠	46	DC Fan Motor	XXM3007
	47	Fan Holder R6	XMR3066
	48	REG Support R6	XNG3093
	49	Rear Panel	See Contrast table(2)
	50	Bonnet	See Contrast table(2)
	51	HOLDER ASSY	XWZ3964
	52	Shield V2	XNG3134
	53	FFC Cover V2	XMR3091
NSP	54	N Label	See Contrast table(2)
NSP	55	Spacer	AEB7092
	56	BINDER ASSY	XWZ3963
	57	Screw	BBZ30P200FTC
	58	Screw 3x23	XBA3012
	59	Screw	See Contrast table(2)
	60	Screw	BBZ30P080FTC
	61	••••••	
	62	Screw	FBT40P080FNI
	63	Screw	BPZ30P120FTC

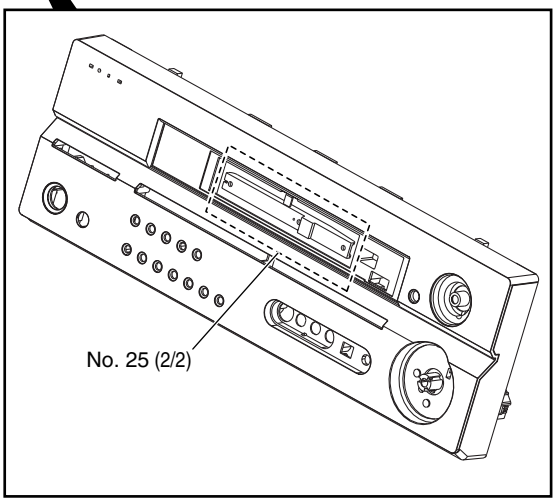
(2) CONTRAST TABLE

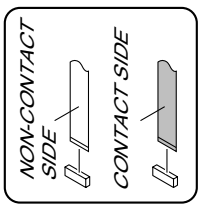
VSX-815-K/KUXJ/CA, VSX-815-S/KUXJ/CA and VSX-915-K/KUXJ/CA are constructed the same except for the following:

Mark	NO	Description	VSX-815-K /KUXJ/CA	VSX-815-S /KUXJ/CA	VSX-915-K /KUXJ/CA
	1	MAIN Assy	XWK3159	XWK3159	XWK3162
	3	VIDEO CONVERTER Assy	Not used	Not used	XWK3185
	4	AMP & PRIMARY Assy	XWZ3945	XWZ3945	XWZ3948
	13	B TO B Assy	XWZ3940	XWZ3940	XWZ3996
	14	S. VIDEO Assy	XWZ3932	XWZ3932	XWZ3995
	34	J45 7P F.F.C/30V	Not used	Not used	XDD3170
	49	Rear Panel	XNC3325	XNC3325	XNC3324
	50	Bonnet K V1	XZN3148	Not used	XZN3148
	50	Bonnet S V1	Not used	XZN3149	Not used
NSP	54	N Label 815S/KU	Not used	XAL3213	Not used
	59	Screw	FBT40P080FTB	FBT40P080FNI	FBT40P080FTB

2.3 FRONT PANEL SECTION







FRONT PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	FRONT DISPLAY ASSY	XWZ3911
	2	R. ENCODER Assy	XWZ3922
	3	POWER SW Assy	XWZ3919
	4	FRONT KEY Assy	XWZ3965
	5	H.P. Assy	XWZ3924
	6	FRONT INPUT Assy	XWZ3926
	7	Standby BTN Assy	See Contrast table(2)
	8	FUNC BTN L Assy	See Contrast table(2)
	9	FUNC BTN R Assy	See Contrast table(2)
	10	JOG Knob	See Contrast table(2)
	11	VOL Knob	See Contrast table(2)
	12	••••••	
	13	••••••	
	14	••••••	
	15	••••••	
	16	••••••	
	17	TUNER BTN	See Contrast table(2)
	18	Sub BTN	See Contrast table(2)
	19	JOG BUTTON	See Contrast table(2)
	20	B Lens R6	XAK3352
	21	D Panel MCACC S	XAK3481
	22	FL Barrier V2	XAK3486
	23	Pioneer Badge B	See Contrast table(2)
NSP	24	C Ring DIM 8.1	XBH3016
	25	FRT Panel	See Contrast table(2)
	26	Earth Plate HP V2	XNG3131
	27	Earth Plate FI V2	XNG3130
	28	J29 8P Shield Cable	XDX3025
	29	J30 5P Shield Cable	XDX3023
	30	J32 5P F.F.C/30V	XDD3161
	31	Screw	BBZ30P080FTC
	32	Screw	BPZ30P100FTC
NSP	33	Energy Star label	AAX8022

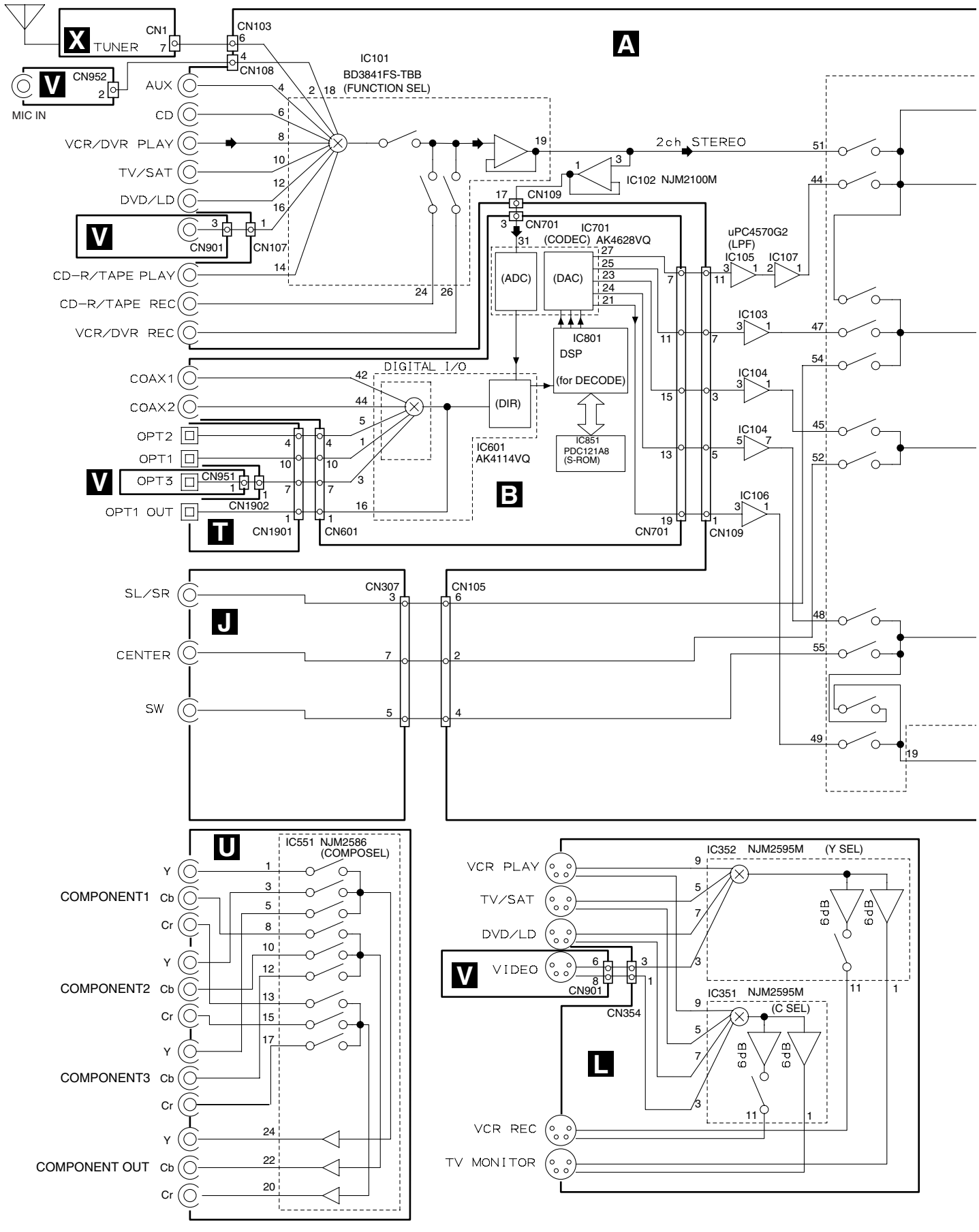
(2) CONTRAST TABLE

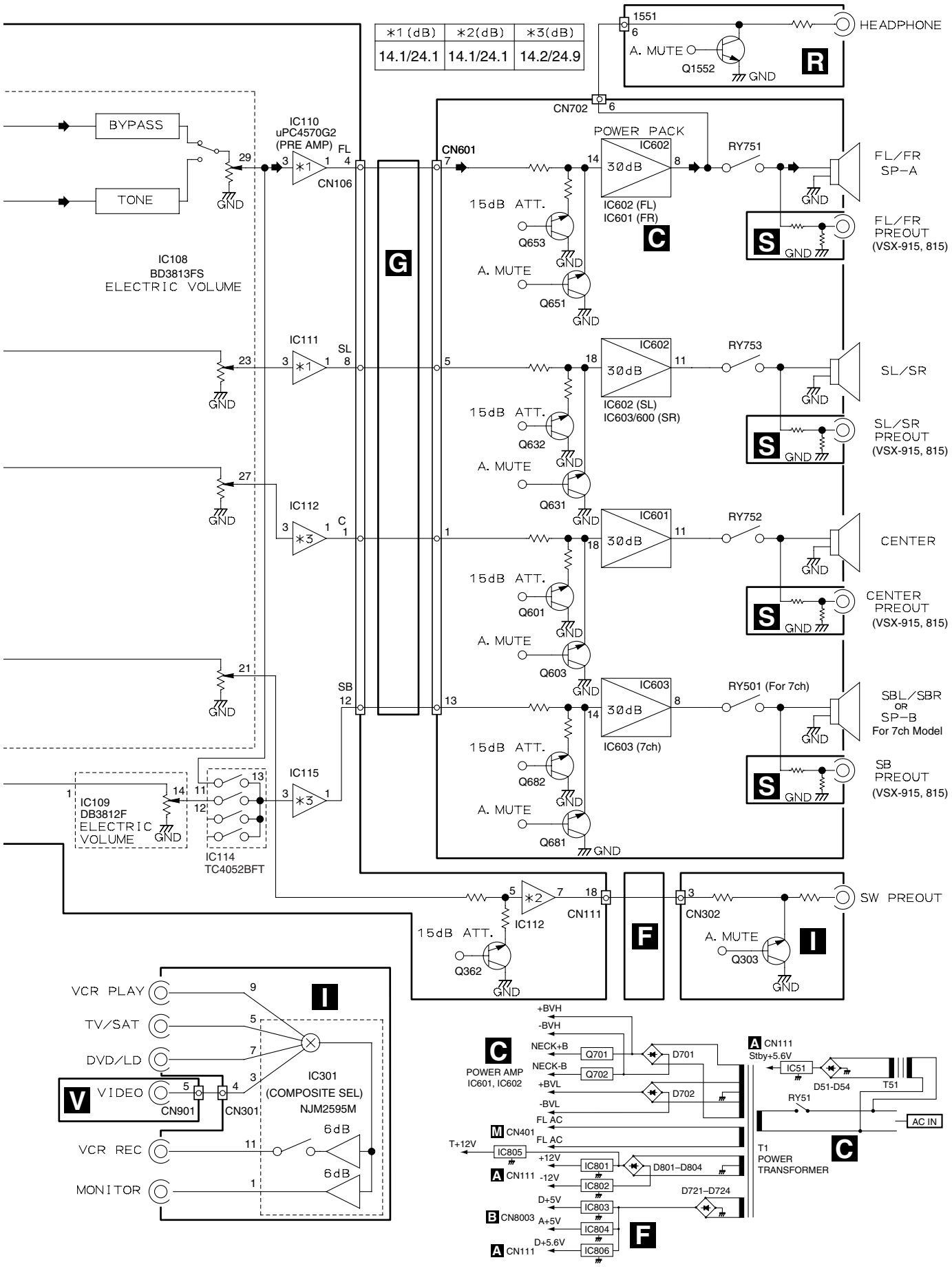
VSX-815-K/KUXJ/CA, VSX-815-S/KUXJ/CA and VSX-915-K/KUXJ/CA are constructed the same except for the following:

Mark	NO	Description	VSX-815-K /KUXJ/CA	VSX-815-S /KUXJ/CA	VSX-915-K /KUXJ/CA
	7	Standby BTN 915K Assy	XAD3216	Not used	XAD3216
	7	Standby BTN 915P Assy	Not used	XAD3217	Not used
	8	FUNC BTN 915K L Assy	XAD3212	Not used	XAD3212
	8	FUNC BTN 915S L Assy	Not used	XAD3214	Not used
	9	FUNC BTN 915K R Assy	XAD3213	Not used	XAD3213
	9	FUNC BTN 915S R Assy	Not used	XAD3215	Not used
	10	JOG Knob V1K	XAB3038	Not used	XAB3038
	10	JOG Knob V1P	Not used	XAB3040	Not used
	11	VOL Knob V1K	XAB3039	Not used	XAB3039
	11	VOL Knob V1P	Not used	XAB3041	Not used
	17	TUNER BTN V2K	XAD3192	Not used	XAD3192
	17	TUNER BTN V2S	Not used	XAD3193	Not used
	18	Sub BTN V2K	XAD3198	Not used	XAD3198
	18	Sub BTN V2P	Not used	XAD3218	Not used
	19	JOG BUTTON V2K	XAD3204	Not used	XAD3204
	19	JOG BUTTON V2S	Not used	XAD3205	Not used
	23	Pioneer Badge B	XAM3006	VAM1129	XAM3006
	25	FRT Panel 815K/KU	XMB3174	Not used	Not used
	25	FRT Panel 815S/KU	Not used	XMB3175	Not used
	25	FRT Panel 915K/KU	Not used	Not used	XMB3173

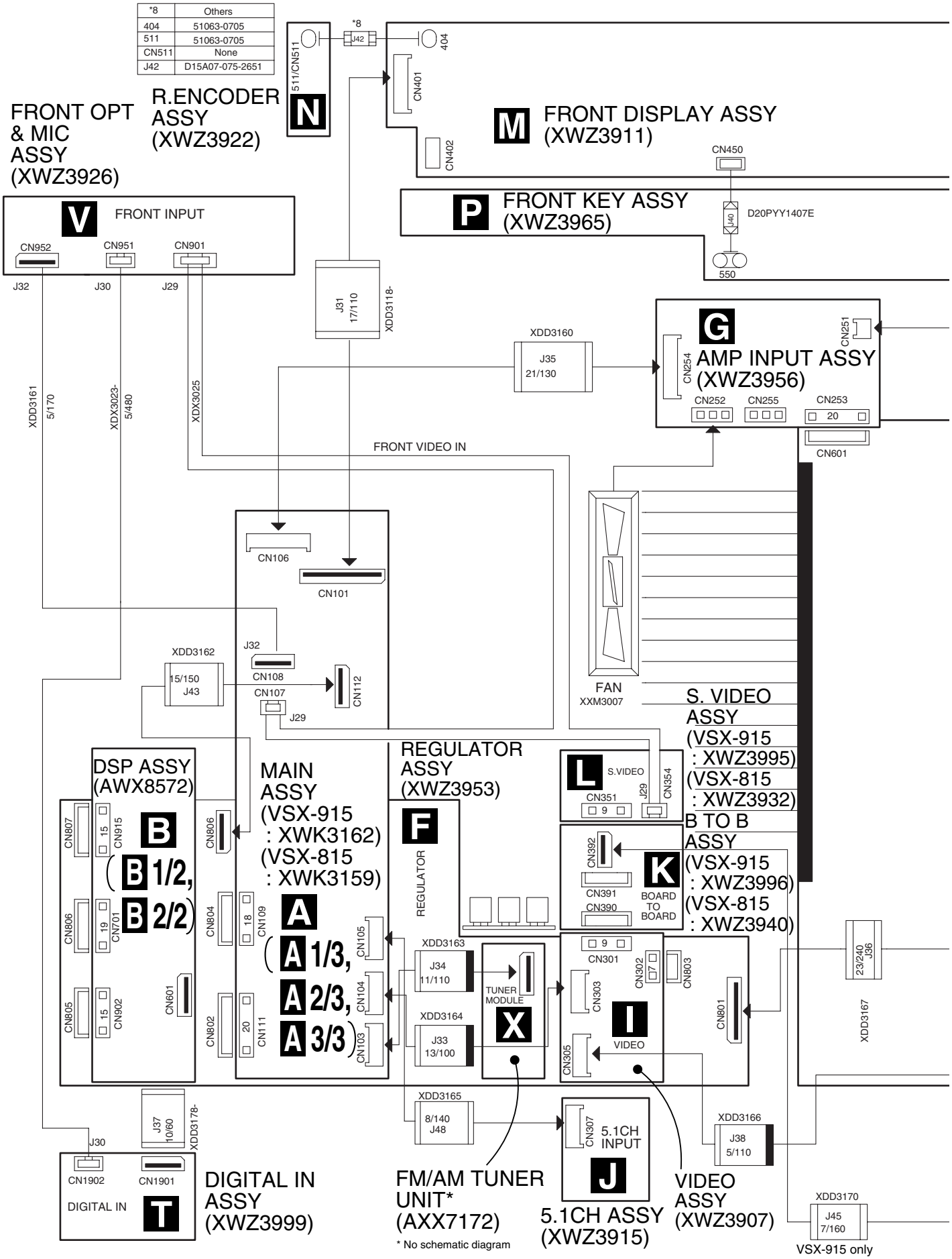
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

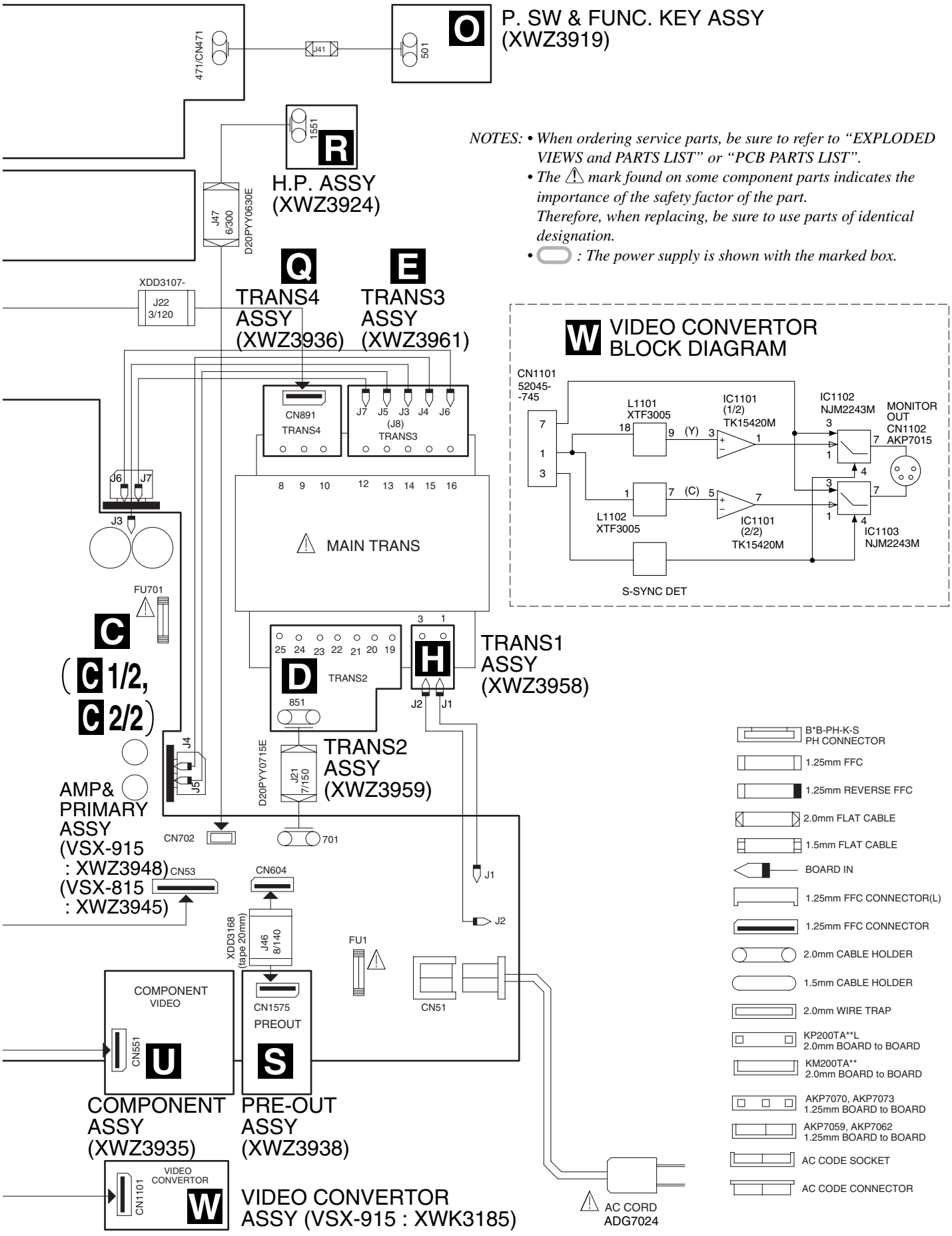
3.1 BLOCK DIAGRAM



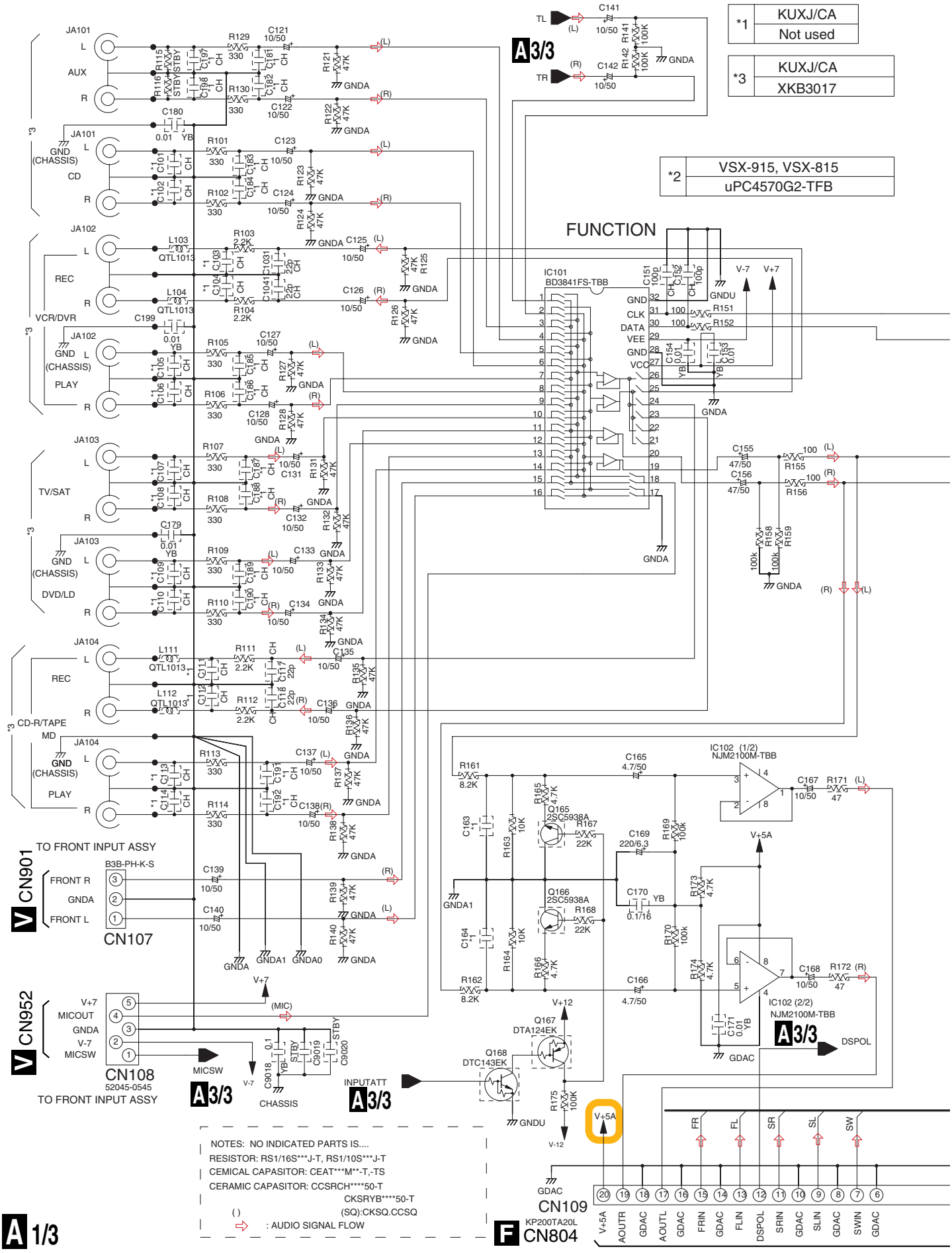

∗1 (dB) ∗2(dB) ∗3(dB)
14.1/24.1 14.1/24.1 14.2/24.9
1551
HEADPHONE
A. MUTE
Q1552
GND
R
CN702
BYPASS
TONE
IC110
uPC4570G2
(PRE AMP)
FL
CN106
CN601
POWER PACK
IC602
30dB
RY751
FL/FR
SP–A
15dB ATT.
Q653
IC602 (FL)
IC601 (FR)
C
S
FL/FR
PREOUT
(VSX-915, 815)
IC108
BD3813FS
ELECTRIC VOLUME
G
A. MUTE
Q651
IC111
SL
IC602
RY753
SL/SR
15dB ATT.
Q632
IC602 (SL)
IC603/600 (SR)
SL/SR
PREOUT
(VSX-915, 815)
A. MUTE
Q631
IC112
C
IC601
RY752
CENTER
15dB ATT.
Q601
CENTER
PREOUT
(VSX-915, 815)
A. MUTE
Q603
SB
IC603
RY501 (For 7ch)
SBL/SBR
OR
SP–B
For 7ch Model
15dB ATT.
Q682
IC603 (7ch)
SB
PREOUT
(VSX-915, 815)
A. MUTE
Q681
IC115
IC109
DB3812F
ELECTRIC
VOLUME
IC114
TC4052BFT
∗2
IC112
CN111
15dB ATT.
Q362
F
CN302
A. MUTE
Q303
I
SW PREOUT
VCR PLAY
TV/SAT
DVD/LD
VIDEO
CN901
CN301
IC301
(COMPOSITE SEL)
NJM2595M
6dB
VCR REC
MONITOR
POWER AMP
IC601, IC602
NECK+B
NECK-B
+BVL
-BVL
Q701
Q702
D701
D702
+BVH
-BVH
FL AC
CN401
T+12V
IC805
+12V
-12V
IC801
IC802
D801–D804
D+5V
A+5V
D+5.6V
IC803
IC804
IC806
CN8003
D721–D724
CN111
Stby+5.6V
IC51
D51-D54
T51
RY51
AC IN
T1
POWER
TRANSFORMER

3.2 OVERALL WIRING CONNECTION DIAGRAM



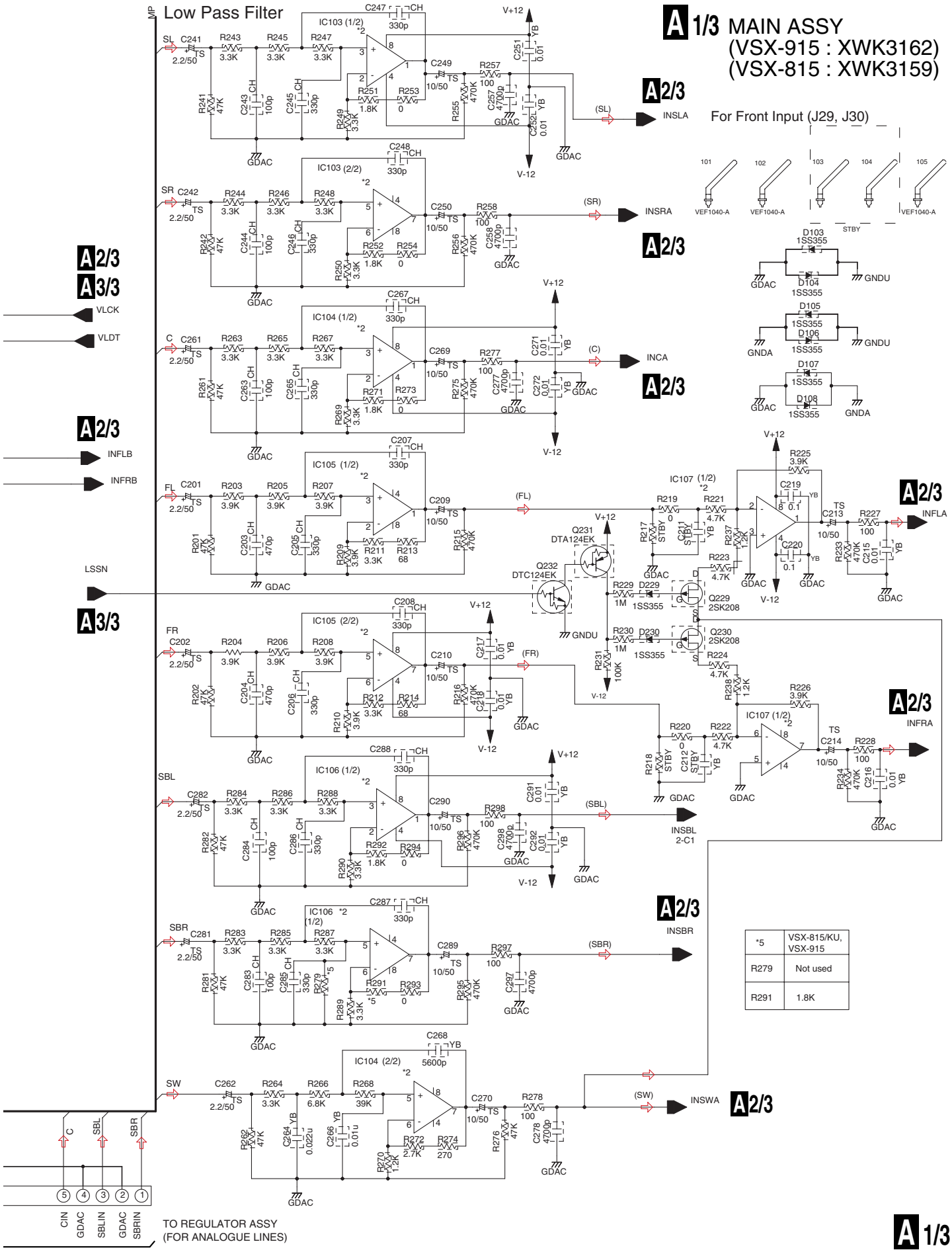

O
P. SW & FUNC. KEY ASSY
(XWZ3919)
471/CN471
J41
501
R
1551
H.P. ASSY
(XWZ3924)
J47
6/300
D20PYY0630E
NOTES: • When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.
• : The power supply is shown with the marked box.
Q
TRANS4
ASSY
(XWZ3936)
E
TRANS3
ASSY
(XWZ3961)
XDD3107-
J22
3/120
CN891
TRANS4
J7 J5 J3 J4 J6
(J8)
TRANS3
8 9 10 12 13 14 15 16
J6 J7
J3
⚠ MAIN TRANS
FU701
C
(C 1/2, C 2/2)
AMP&
PRIMARY
ASSY
(VSX-915
: XWZ3948)
(VSX-815
: XWZ3945)
25 24 23 22 21 20 19
D
TRANS2
851
3 1
H
TRANS1
ASSY
(XWZ3958)
J2 J1
J4
J5
D20PYY0715E
J21
7/150
TRANS2
ASSY
(XWZ3959)
CN702
701
CN53
CN604
J1
J2
XDD3168
(tape 20mm)
J46
8/140
FU1
CN51
COMPONENT
VIDEO
CN551
U
CN1575
PREOUT
S
COMPONENT
ASSY
(XWZ3935)
PRE-OUT
ASSY
(XWZ3938)
VIDEO
CONVERTOR
CN1101
W
VIDEO CONVERTOR
ASSY (VSX-915 : XWK3185)
⚠ AC CORD
ADG7024
W
VIDEO CONVERTOR
BLOCK DIAGRAM
CN1101
52045-
-745
7
1
3
L1101
XTF3005
18
9 (Y) 3
IC1101
(1/2)
TK15420M
1
IC1102
NJM2243M
3
1
7
MONITOR
OUT
CN1102
AKP7015
4
L1102
XTF3005
1 7 (C) 5
IC1101
(2/2)
TK15420M
IC1103
NJM2243M
S-SYNC DET
B*B-PH-K-S
PH CONNECTOR
1.25mm FFC
1.25mm REVERSE FFC
2.0mm FLAT CABLE
1.5mm FLAT CABLE
BOARD IN
1.25mm FFC CONNECTOR(L)
1.25mm FFC CONNECTOR
2.0mm CABLE HOLDER
1.5mm CABLE HOLDER
2.0mm WIRE TRAP
KP200TA**L
2.0mm BOARD to BOARD
KM200TA**
2.0mm BOARD to BOARD
AKP7070, AKP7073
1.25mm BOARD to BOARD
AKP7059, AKP7062
1.25mm BOARD to BOARD
AC CODE SOCKET
AC CODE CONNECTOR

3.3 MAIN ASSY (1/3)



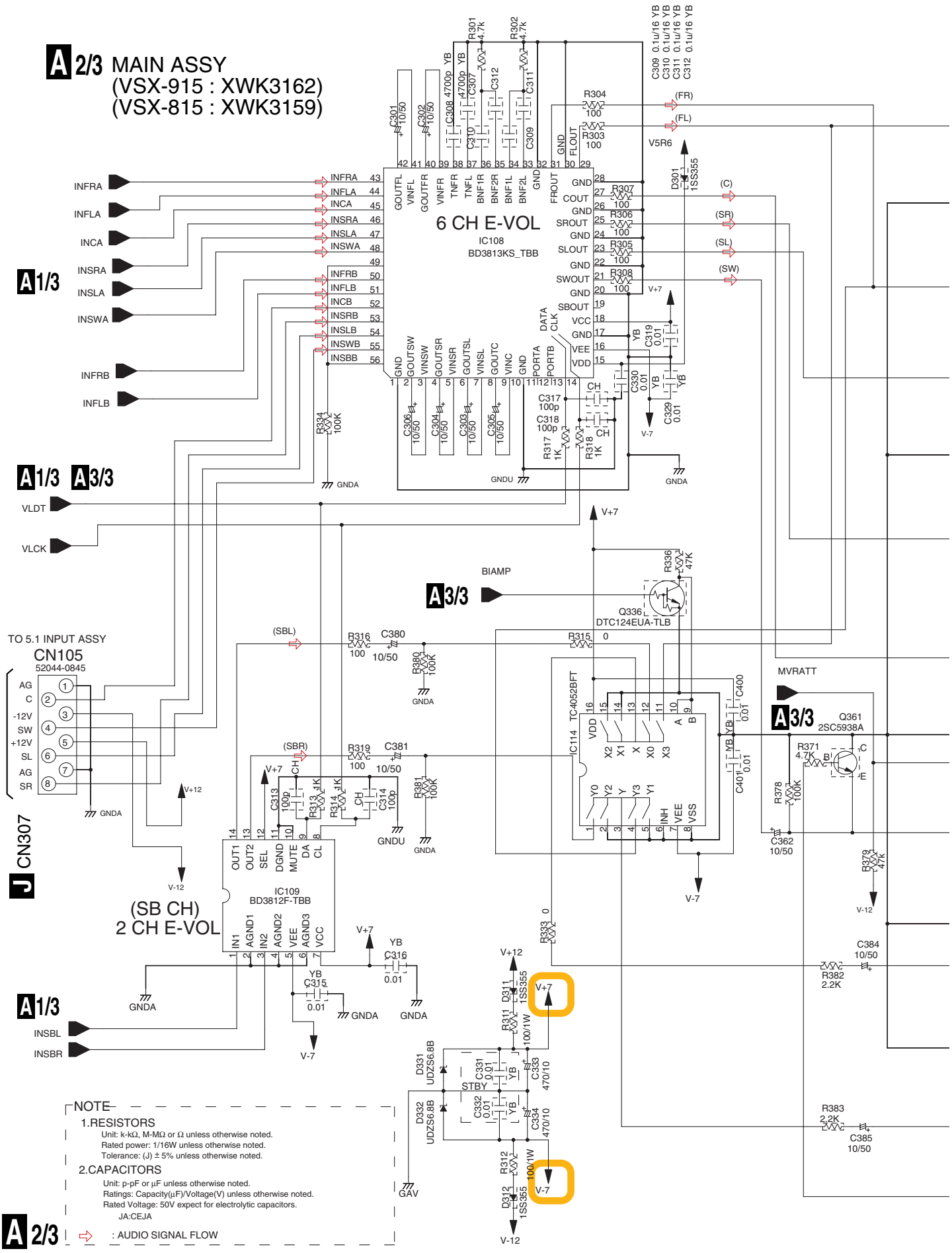
A 1/3 MAIN ASSY
(VSX-915 : XWK3162)
(VSX-815 : XWK3159)

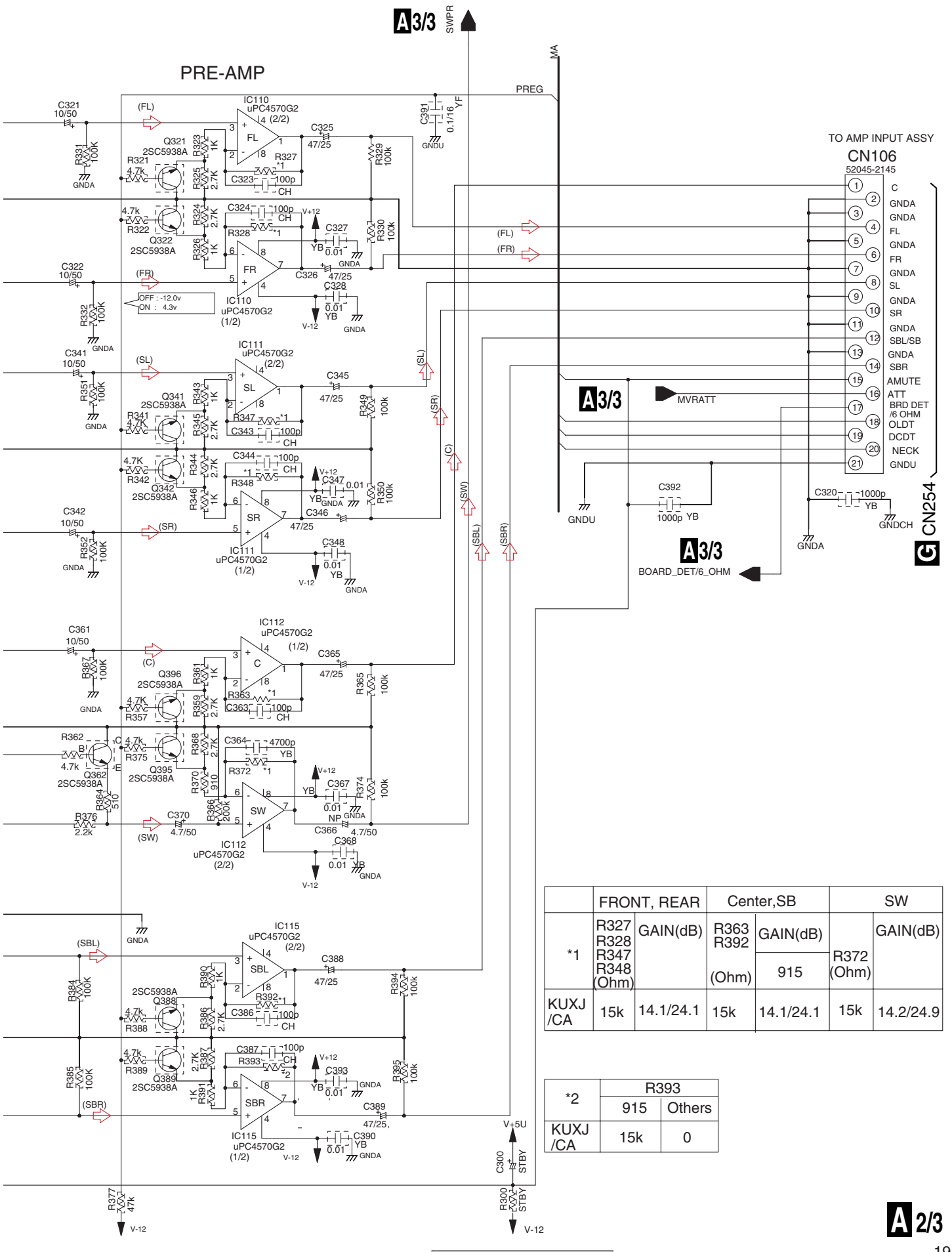
Low Pass Filter



*5	VSX-815/KU, VSX-915
R279	Not used
R291	1.8K

3.4 MAIN ASSY (2/3)



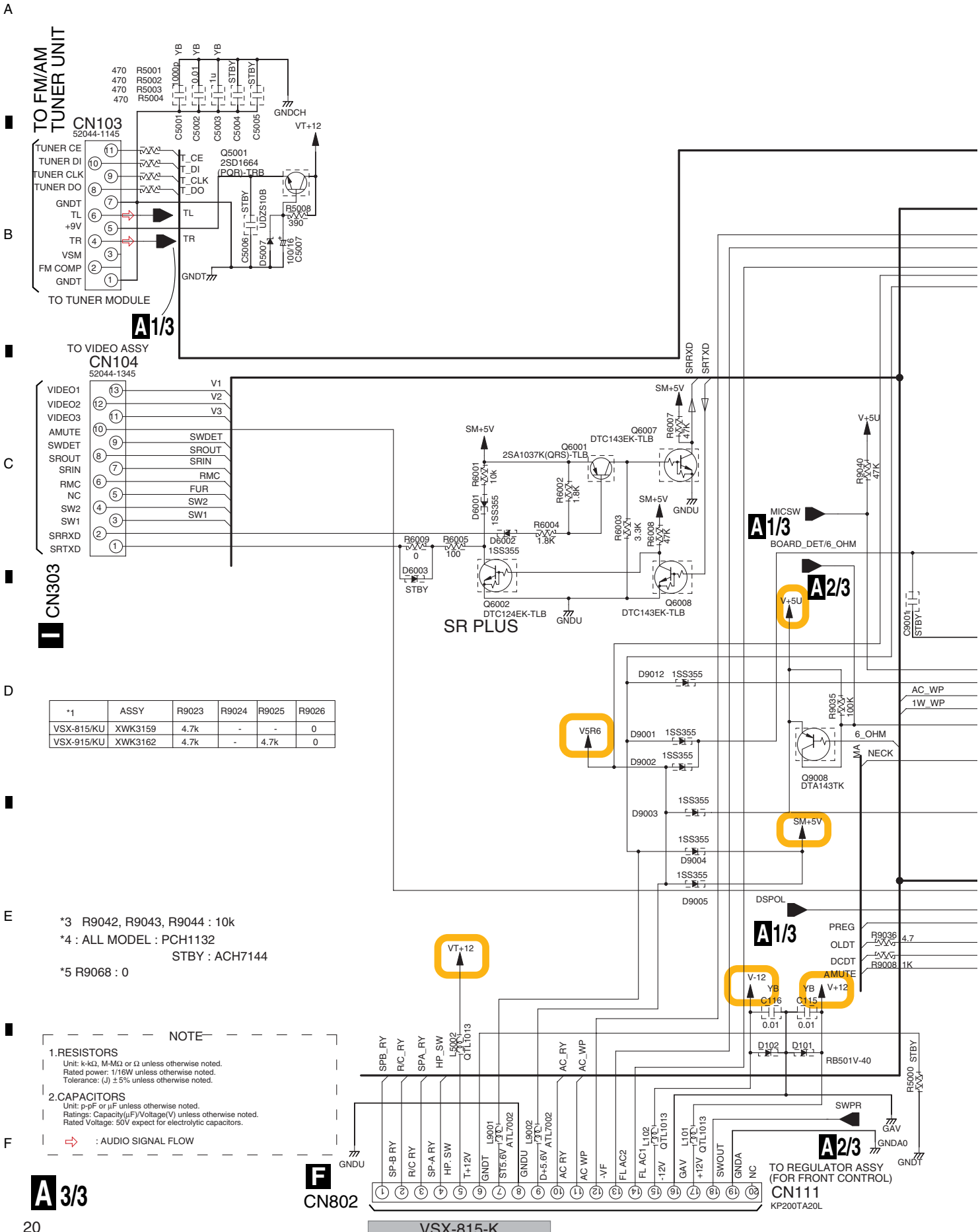


	FRONT, REAR		Center,SB		SW	
*1	R327 R328 R347 R348 (Ohm)	GAIN(dB)	R363 R392 (Ohm)	GAIN(dB) 915	R372 (Ohm)	GAIN(dB)
KUXJ /CA	15k	14.1/24.1	15k	14.1/24.1	15k	14.2/24.9

*2	R393	
	915	Others
KUXJ /CA	15k	0

A2/3

3.5 MAIN ASSY (3/3)



*1	ASSY	R9023	R9024	R9025	R9026
VSX-815/KU	XWK3159	4.7k	-	-	0
VSX-915/KU	XWK3162	4.7k	-	4.7k	0

*3 R9042, R9043, R9044 : 10k

*4 : ALL MODEL : PCH1132
STBY : ACH7144

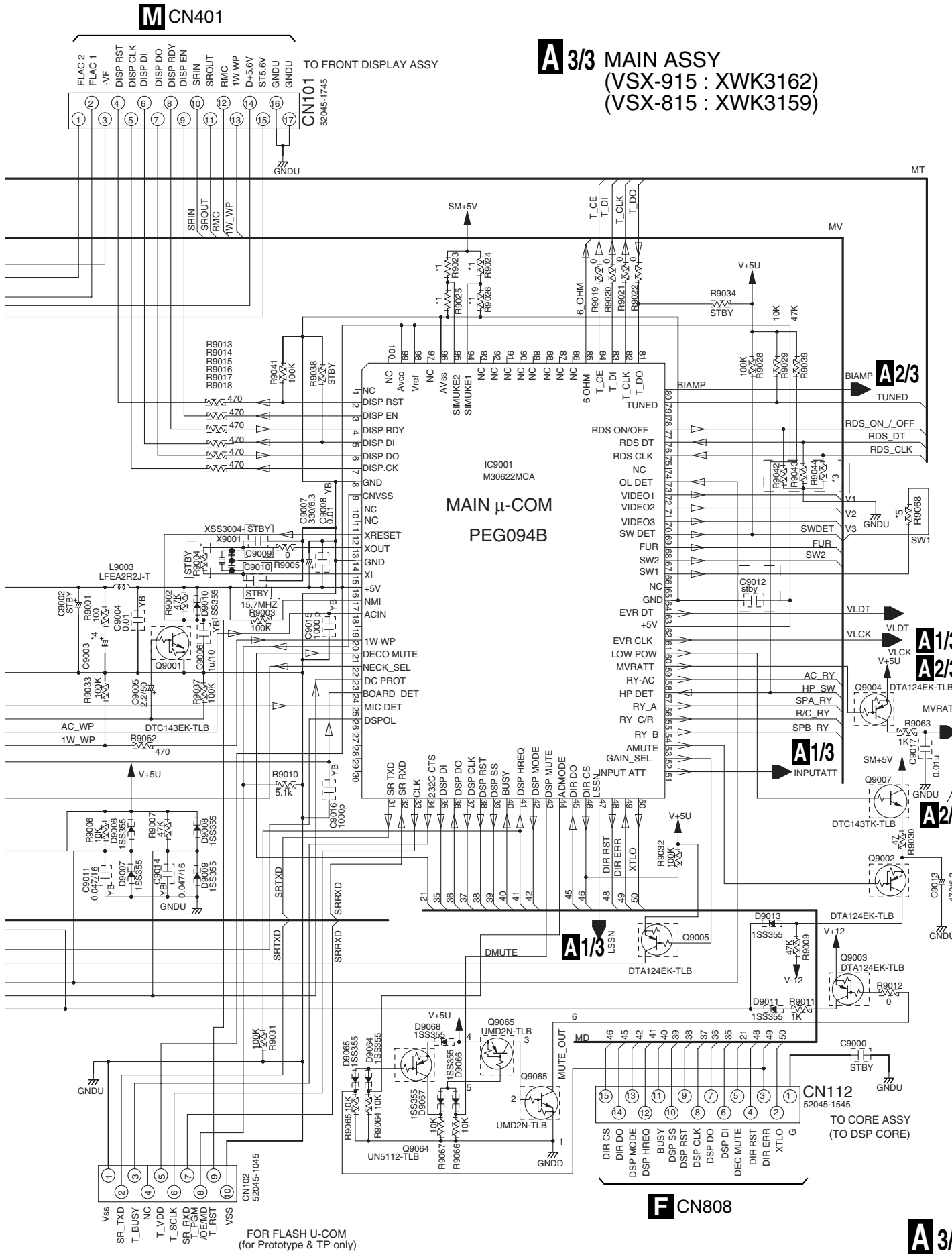
*5 R9068 : 0

NOTE

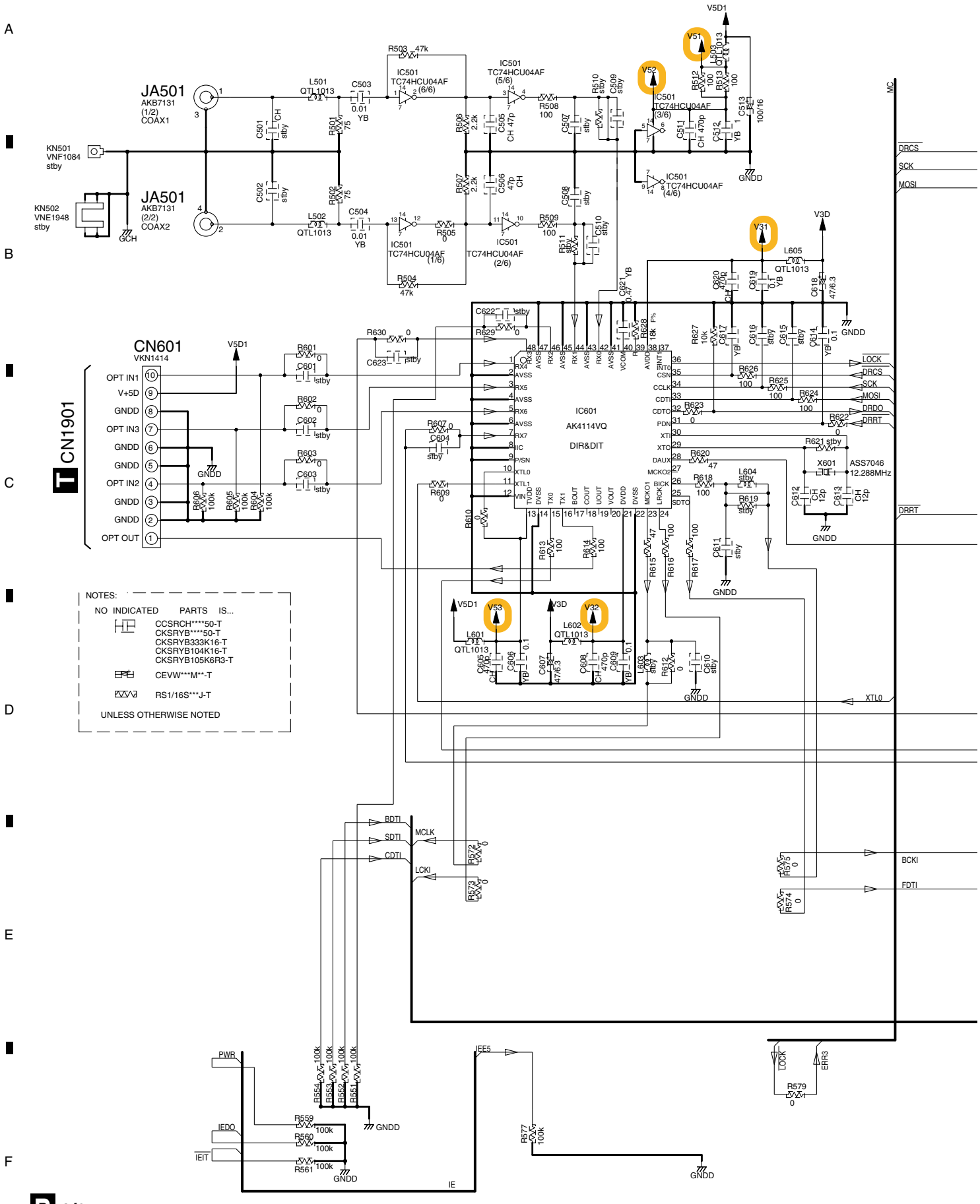
1.RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.

2.CAPACITORS
Unit: p-pF or µF unless otherwise noted.
Ratings: Capacity(µF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

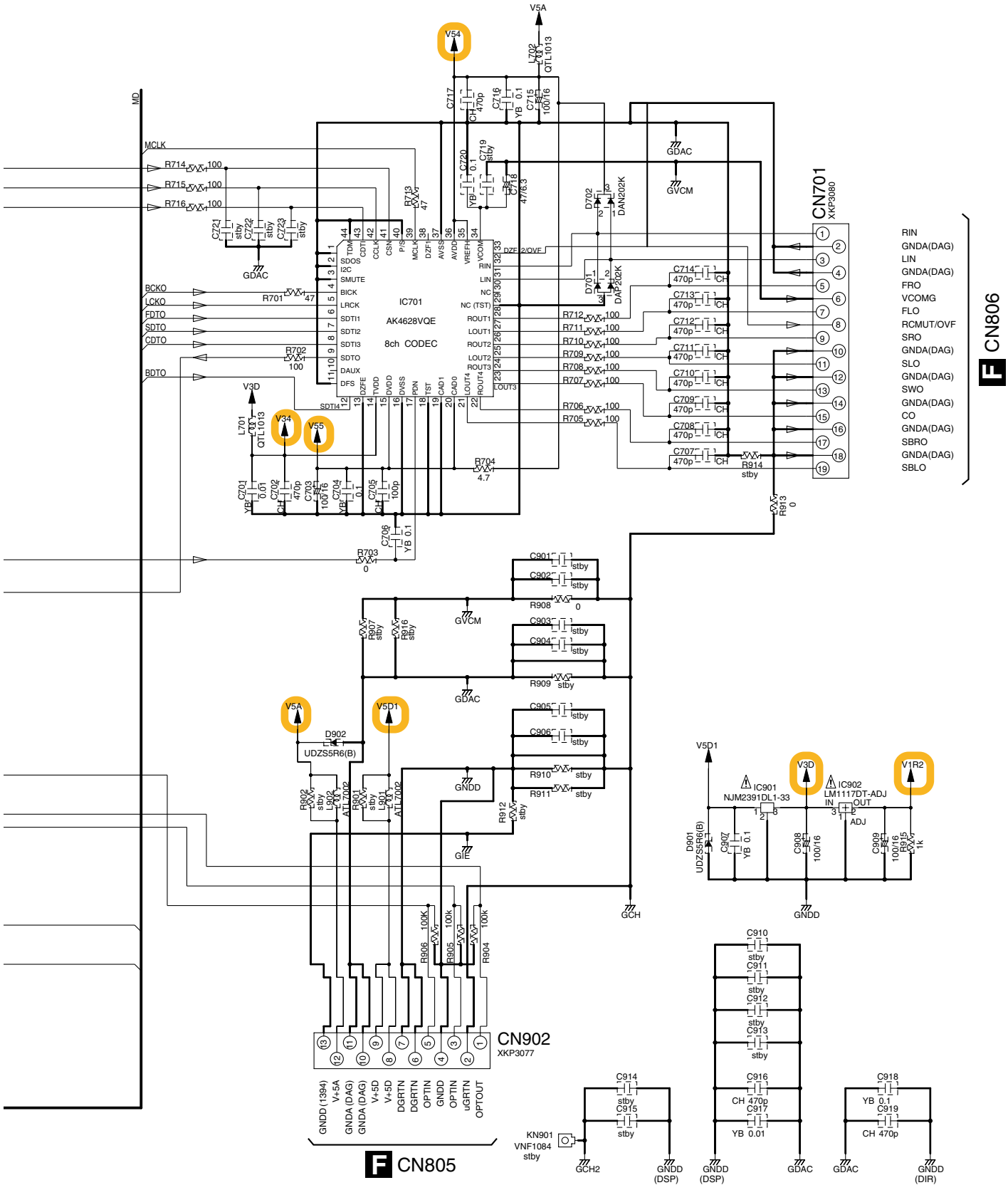
⇨ : AUDIO SIGNAL FLOW


M CN401
TO FRONT DISPLAY ASSY
CN101
52045-1745
A 3/3 MAIN ASSY
(VSX-915 : XWK3162)
(VSX-815 : XWK3159)
IC9001
M30622MCA
MAIN µ-COM
PEG094B
TUNED
INPUTATT
CN102
52045-1045
FOR FLASH U-COM
(for Prototype & TP only)
CN112
52045-1545
TO CORE ASSY
(TO DSP CORE)
F CN808
A 2/3
A 1/3
VSX-815-K
21

3.6 DSP ASSY (1/2)

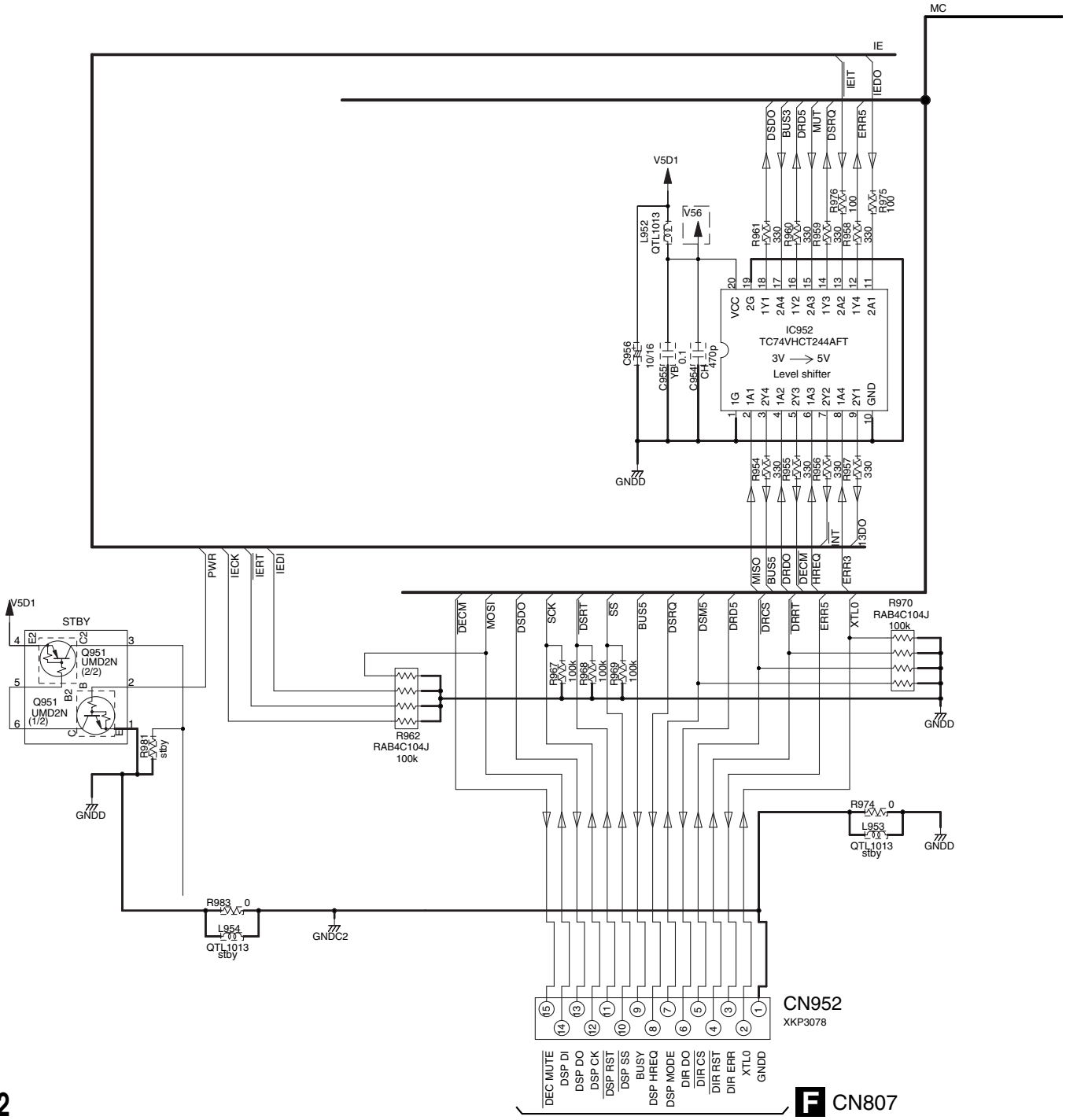


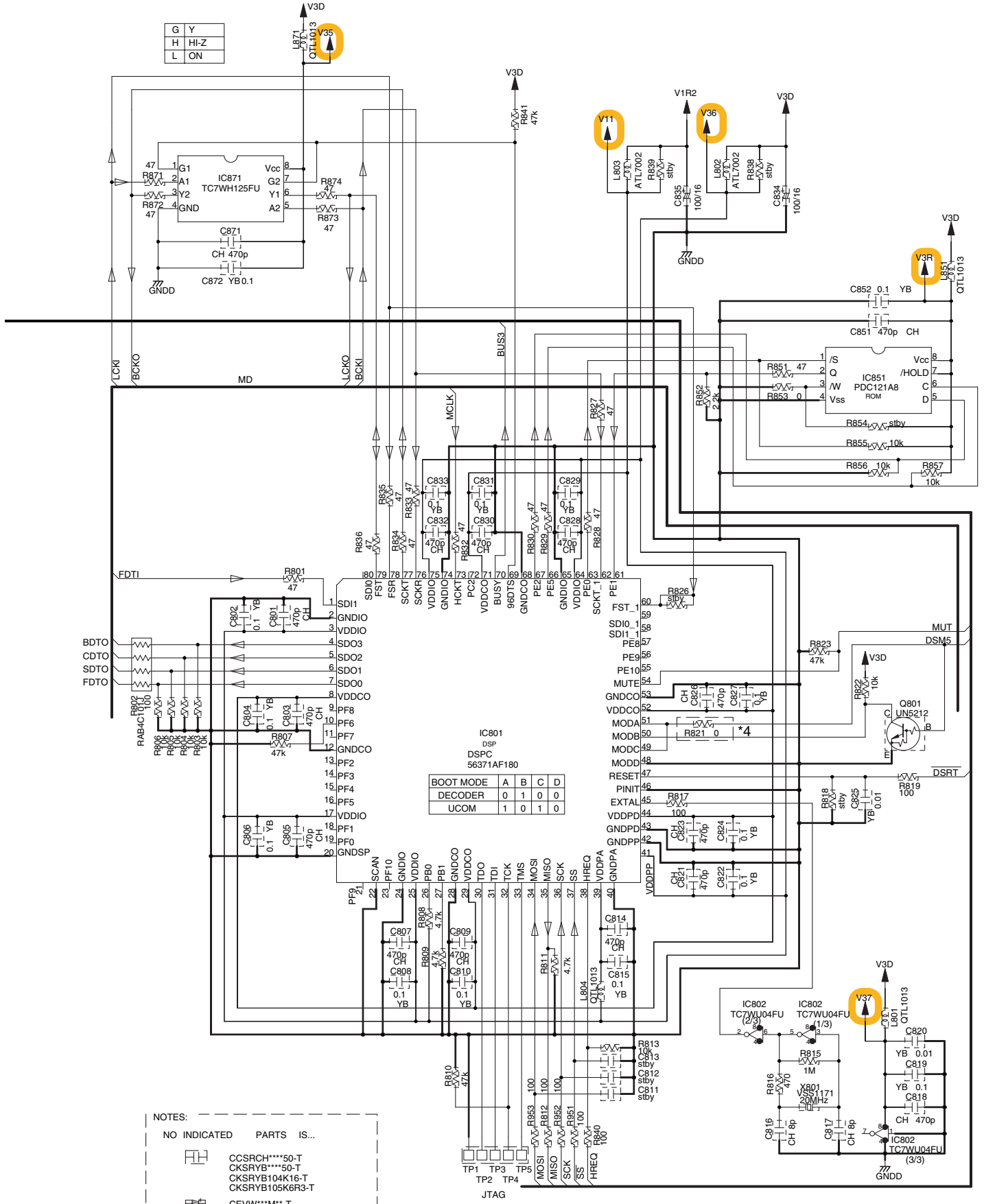
B 1/2



B 1/2 DSP ASSY
(AWX8572)

3.7 DSP ASSY (2/2)

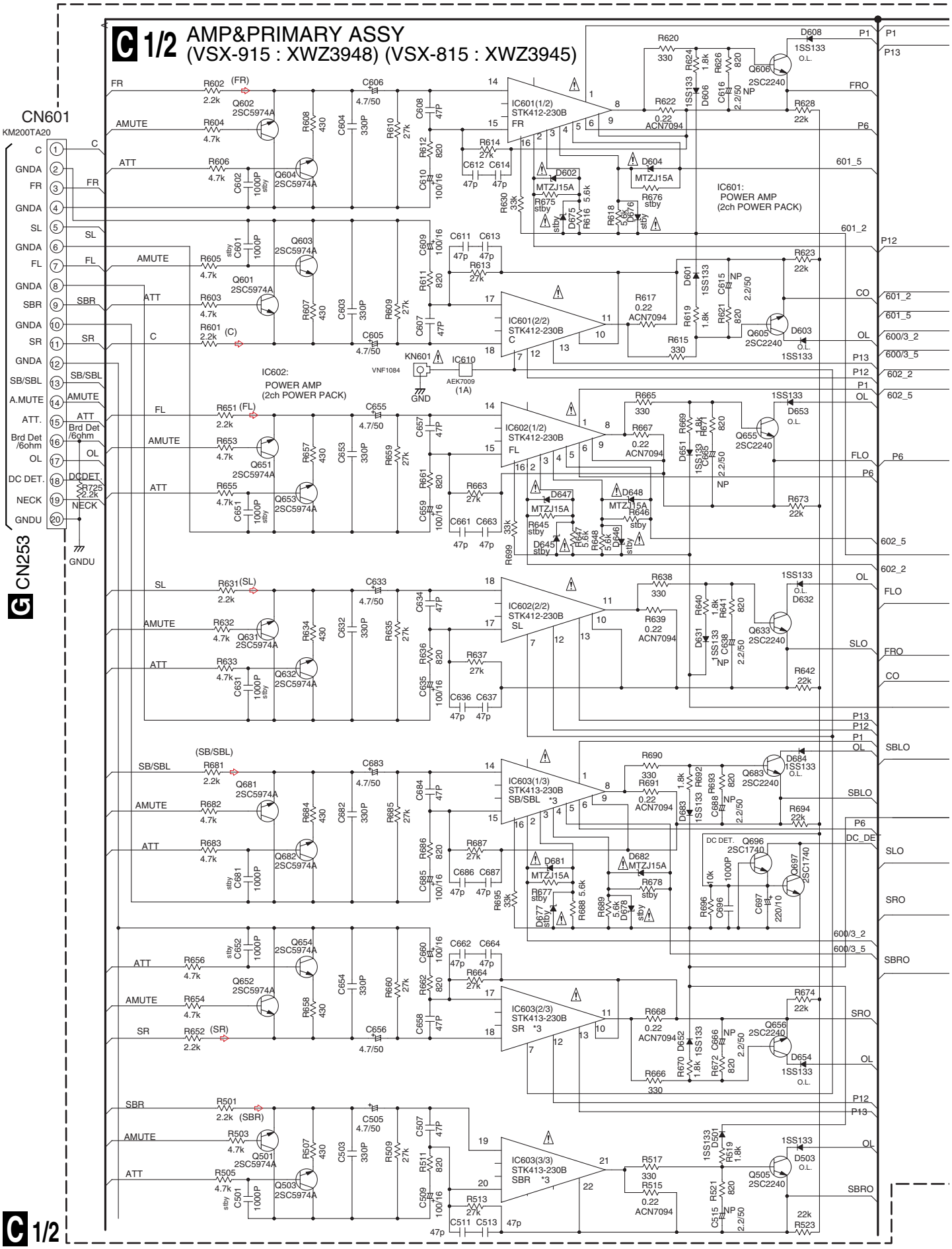


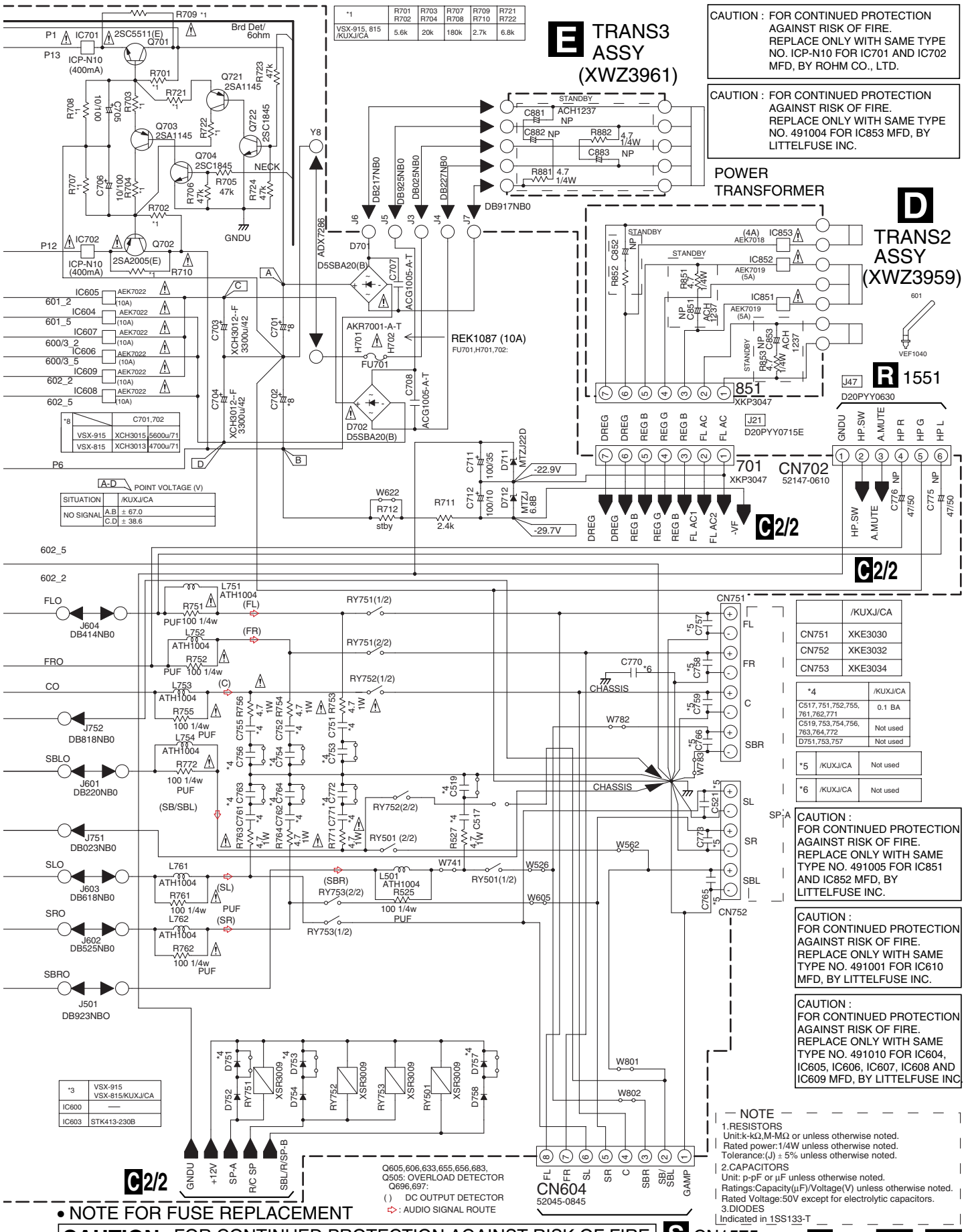


B 2/2 DSP ASSY (AWX8572)

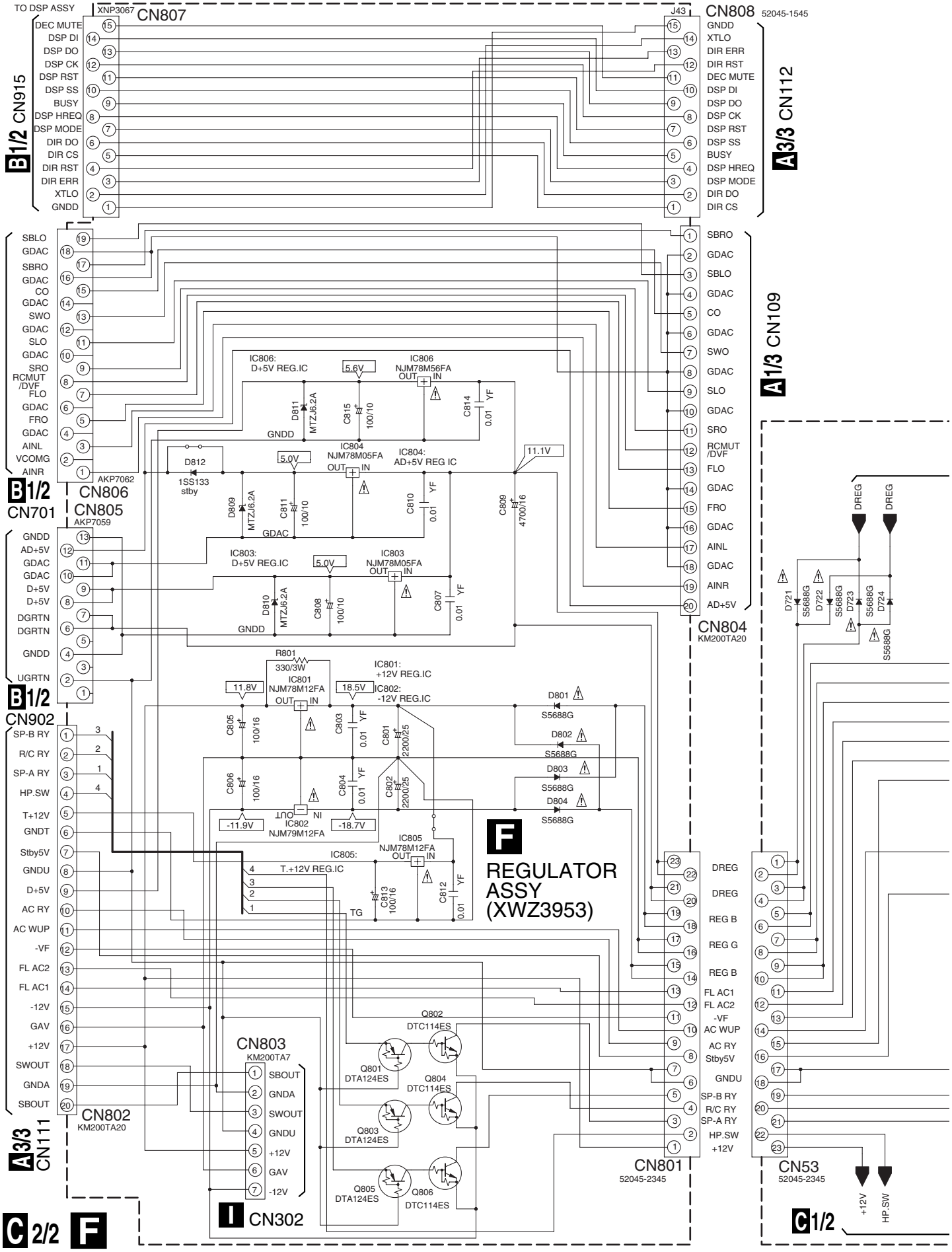
B 2/2

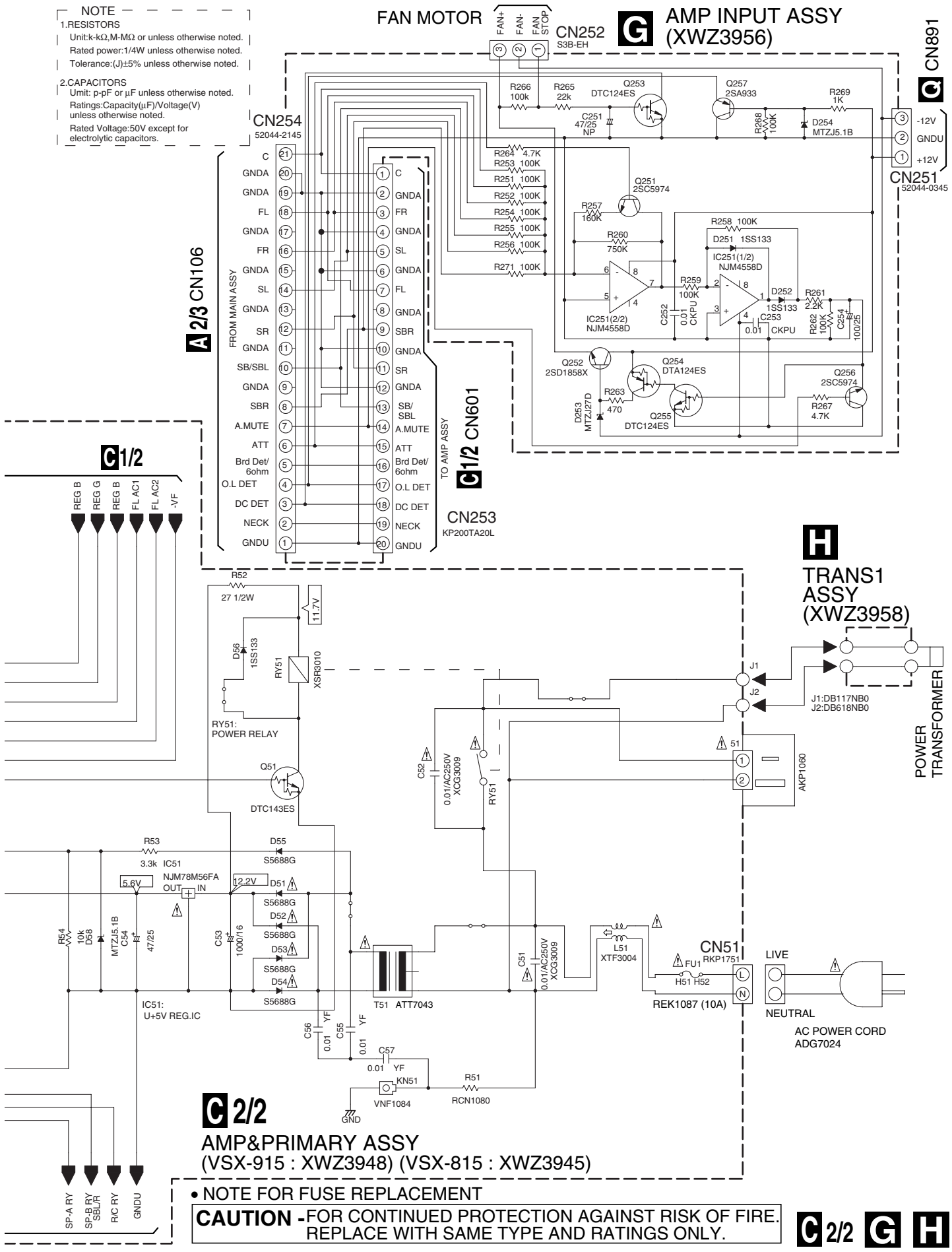
3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS



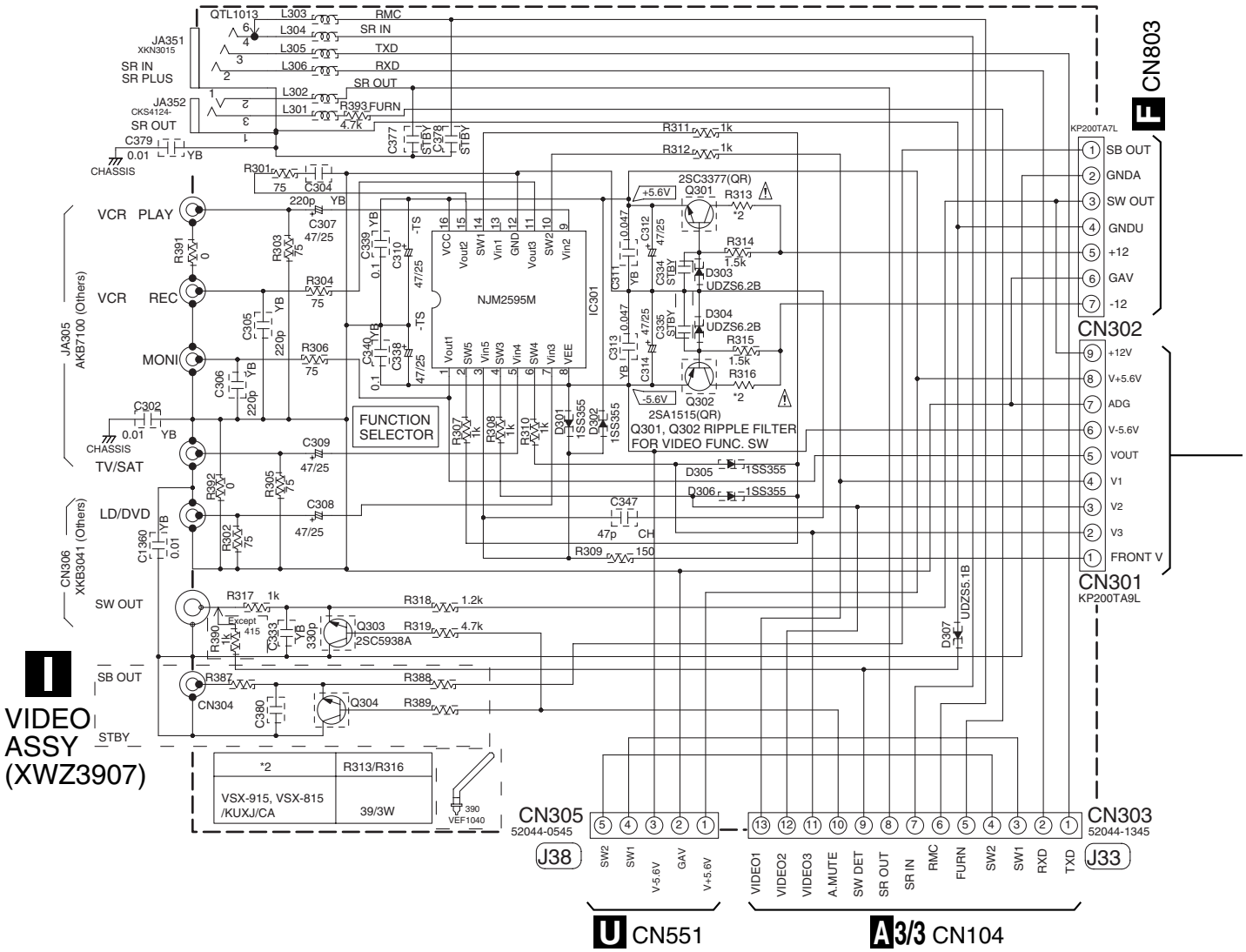

E TRANS3 ASSY (XWZ3961)
D TRANS2 ASSY (XWZ3959)
R 1551
POWER TRANSFORMER
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. ICP-N10 FOR IC701 AND IC702 MFD, BY ROHM CO., LTD.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491004 FOR IC853 MFD, BY LITTELFUSE INC.
REK1087 (10A)
FU701,H701,702:
AKR7001-A-T
ADX7286
D5SBA20(B)
ACG1005-A-T
XCH3012-F 3300u/42
CN702 52147-0610
CN751
CN752
CN604 52045-0845
XKP3047
XKP3048
D20PYY0630
D20PYY0715E
C2/2
C1/2
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 FOR IC851 AND IC852 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 FOR IC610 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 FOR IC604, IC605, IC606, IC607, IC608 AND IC609 MFD, BY LITTELFUSE INC.
NOTE
1.RESISTORS
Unit:k-kΩ,M-MΩ or unless otherwise noted.
Rated power:1/4W unless otherwise noted.
Tolerance:(J) ± 5% unless otherwise noted.
2.CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings:Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage:50V except for electrolytic capacitors.
3.DIODES
Indicated in 1SS133-T
• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.
S CN1575
Q605,606,633,655,656,683, Q505: OVERLOAD DETECTOR Q696,697: ( ) DC OUTPUT DETECTOR ⇨: AUDIO SIGNAL ROUTE
-22.9V
-29.7V
2.4k
stby
IC701 2SC5511(E) Q701
IC702 2SA2005(E) Q702
Q721 2SA1145
Q703 2SA1145
Q722 2SC1845
Q704 2SC1845
NECK
GNDU
Brd Det/ 6ohm
J604 DB414NB0
J752 DB818NB0
J601 DB220NB0
J751 DB023NB0
J603 DB618NB0
J602 DB525NB0
J501 DB923NBO
FLO
FRO
CO
SBLO
SLO
SRO
SBRO
(SB/SBL)
(SBR)
(SL)
(SR)
(FL)
(FR)
(C)
RY751(1/2)
RY751(2/2)
RY752(1/2)
RY752(2/2)
RY501 (2/2)
RY501(1/2)
RY753(2/2)
RY753(1/2)
CHASSIS
W782
W562
W526
W605
W741
W801
W802
GNDU +12V SP-A R/C SP SBL/R/SP-B
FL FR SL SR C SBR SB/SBL GAMP
HP.SW A.MUTE HP R HP G HP L
DREG REG B REG G FL AC1 FL AC2 -VF
P1 P13 P12 P6 Y8 J6 J5 J3 J4 J7 J47 J21
DB217NB0 DB925NB0 DB025NB0 DB227NB0 DB917NB0
STANDBY ACH1237 NP C881 C882 NP C883 NP R882 4.7 1/4W R881 4.7 1/4W
IC605 IC604 IC607 IC606 IC609 IC608 AEK7022 (10A)
IC853 AEK7018 (4A)
IC852 AEK7019 (5A)
IC851 AEK7019 (5A)
601_2 601_5 600/3_2 600/3_5 602_2 602_5
D701 D5SBA20(B)
D702 D5SBA20(B)
FU701
H701 H702
C701 C702 C703 C704 C707 C708
D711 MTZJ22D
D712 MTZJ 6.8B
R711 R712 W622
L751 L752 L753 L754 L761 L762 ATH1004
R751 R752 R755 R772 R761 R762 100 1/4w PUF
R756 R754 R753 R763 R764 R771 R772 4.7 1W
C755 C752 C751 C756 C754 C753 C763 C762 C761 C764 C771 C772
R527 C517 C519 L501 ATH1004 R525 100 1/4w PUF
C757 C758 C759 C766 C783 C765 C773 C521 C776 C775
W783
D751 D752 D753 D754 D757 D758
RY751 RY752 RY753 RY501 XSR3009
C703 C704 C701 C702 XCH3012-F 3300u/42
C711 C712 100/35 100/10
C776 NP 47/50
C775 NP 47/50
C852 R852 R851 4.7 1/4W C851 ACH 1237 R853 NP 1/4W C853 ACH 1237
VEF1040
601
*1 R701 R702 R703 R704 R707 R709 R710 R721 R722
VSX-915, 815 /KUXJ/CA 5.6k 20k 180k 2.7k 6.8k
*8 C701,702
VSX-915 XCH3015 5600u/71
VSX-815 XCH3013 4700u/71
A-D POINT VOLTAGE (V)
SITUATION /KUXJ/CA
NO SIGNAL A.B ± 67.0
C.D ± 38.6
/KUXJ/CA
CN751 XKE3030
CN752 XKE3032
CN753 XKE3034
*4 /KUXJ/CA
C517,751,752,755,761,762,771 0.1 BA
C519,753,754,756,763,764,772 Not used
D751,753,757 Not used
*5 /KUXJ/CA Not used
*6 /KUXJ/CA Not used
*3 VSX-915 VSX-815/KUXJ/CA
IC600 —
IC603 STK413-230B

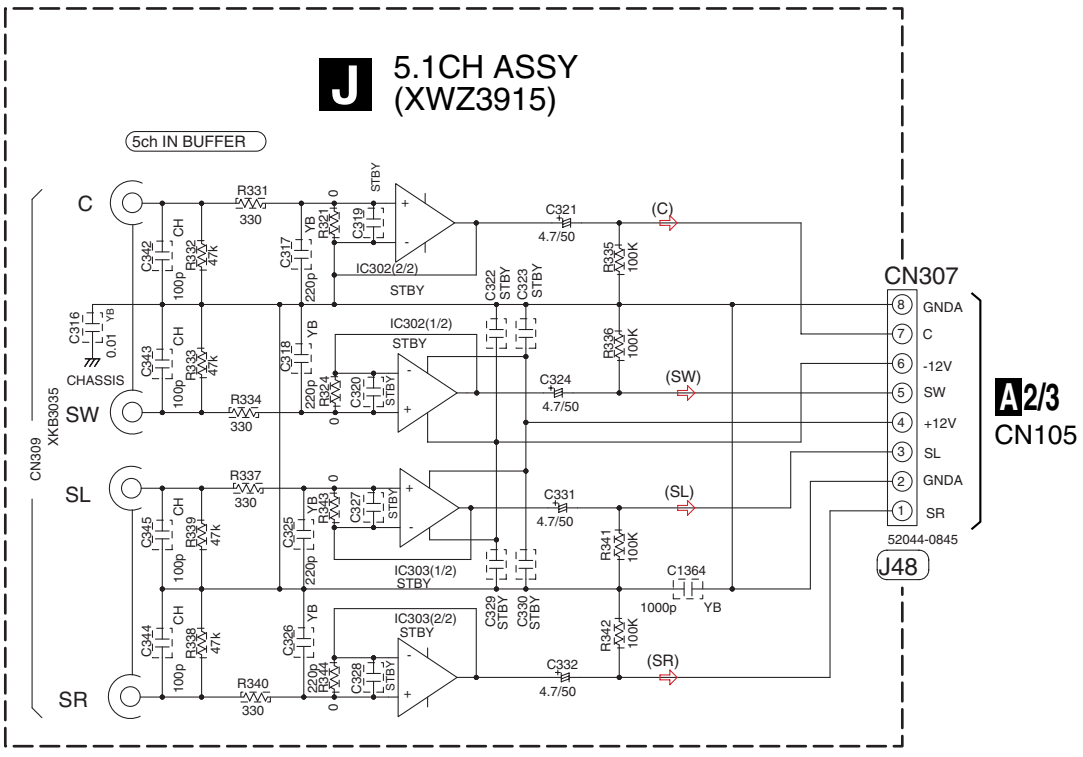
3.9 AMP&PRIMARY(2/2), REGULATOR, AMP INPUT and TRANS1 ASSYS




NOTE
1.RESISTORS
Unit:k-kΩ,M-MΩ or unless otherwise noted.
Rated power:1/4W unless otherwise noted.
Tolerance:(J)±5% unless otherwise noted.
2.CAPACITORS
Umit: p-pF or µF unless otherwise noted.
Ratings:Capacity(µF)/Voltage(V) unless otherwise noted.
Rated Voltage:50V except for electrolytic capacitors.
FAN MOTOR
FAN+
FAN-
FAN STOP
CN252
S3B-EH
G AMP INPUT ASSY (XWZ3956)
CN254
52044-2145
A 2/3 CN106
FROM MAIN ASSY
C
GNDA
FL
SR
SB/SBL
A.MUTE
ATT
Brd Det/ 6ohm
O.L DET
DC DET
NECK
GNDU
SBB
SL
TO AMP ASSY
C 1/2 CN601
CN253
KP200TA20L
R266 100k
R265 22k
Q253 DTC124ES
Q257 2SA933
R269 1K
C251 47/25 NP
R268 100K
D254 MTZJ5.1B
Q CN891
-12V
GNDU
+12V
CN251
52044-0345
R264 4.7K
R253 100K
R251 100K
R252 100K
R254 100K
R255 100K
R256 100K
R271 100K
Q251 2SC5974
R257 160K
R260 750K
R258 100K
D251 1SS133
IC251(1/2) NJM4558D
IC251(2/2) NJM4558D
R259 100K
C252 0.01 CKPU
D252 1SS133
R261 2.2K
C253 0.01 CKPU
R262 100K
C254 100/25
Q252 2SD1858X
Q254 DTA124ES
Q256 2SC5974
R263 470
D253 MTZJ27D
Q255 DTC124ES
R267 4.7K
C 1/2
REG B
REG G
REG B
FL AC1
FL AC2
-VF
R52
27 1/2W
11.7V
D56 1SS133
RY51
XSR3010
RY51: POWER RELAY
Q51
DTC143ES
H
TRANS1 ASSY (XWZ3958)
J1
J2
J1:DB117NB0
J2:DB618NB0
POWER TRANSFORMER
C52 0.01/AC250V XCG3009
RY51
51
AKP1060
R53
3.3k
IC51
NJM78M56FA
5.6V
12.2V
D55 S5688G
D51 S5688G
D52 S5688G
D53 S5688G
D54 S5688G
R54 10k
D58 MTZJ5.1B
C54 47/25
C53 1000/16
IC51: U+5V REG.IC
T51 ATT7043
C51 0.01/AC250V XCG3009
L51 XTF3004
CN51
FU1 RKP1751
H51 H52
REK1087 (10A)
LIVE
NEUTRAL
AC POWER CORD ADG7024
C56 0.01 YF
C55 0.01 YF
C57 0.01 YF
KN51
VNF1084
R51 RCN1080
GND
C 2/2
AMP&PRIMARY ASSY
(VSX-915 : XWZ3948) (VSX-815 : XWZ3945)
SP-A RY
SP-B RY SBL/R
R/C RY
GNDU
• NOTE FOR FUSE REPLACEMENT
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.
C 2/2 G H

3.10 VIDEO, 5.1CH, B TO B and S. VIDEO ASSYS





NOTE

1.RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.

2.CAPACITORS
Unit: p-pF or µF unless otherwise noted.
Ratings: Capacity(µF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

NJM2595M control port status

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
1	0	(1)	0	1	Vin2	Vin2	mute
1	1	(1)	0	1	Vin3	Vin3	Vin3
1	1	0	1	1	Vin4	Vin4	Vin4
1	1	1	1	1	Vin5	Vin5	Vin5
0	0	(0)	(0)	0	mute	mute	mute

VIN 2.VCR
VIN 3.DVD/LD
VIN 4.TV/SAT
VIN 5.FRONT
Vout1. MON out
Vout2. MR out
Vout3. VCR out

K
B TO B ASSY
(VSX-915 : XWZ3996)
(VSX-815 : XWZ3940)

V CN901
CN354
B5B-PH-K-S
ADG FRONT V FRONT Y ADG FRONT C
J29

CN390 KM200TA9
CN391 KM200TA9
Y V+5.6V ADG C V-5.6V V1 V2 V3 FRONT V
CN351 KP200TA9L

+5.6V
-5.6V

CN392
52045-0745
VOUT +12V Y +5.6V -5.6V ADG C
VSX-915/KUXJ/CA only

W CN1101

L
S. VIDEO ASSY
(VSX-915 : XWZ3995)
(VSX-815 : XWZ3932)

IC352 NJM2595M
IC351 NJM2595M
VCC Vout2 SW1 Vin1 GND Vout3 SW2 Vin2
Vout1 SW5 Vin5 SW3 Vin4 SW4 Vin3 VEE

S-Y FUNC.SELECTOR
S-C FUNC.SELECTOR

CN353(1/2) XKB3051 LD/DVD
CN353(2/2) XKB3051 TV/SAT
CHASSIS
VCR1 CN352(2/2) XKB3051

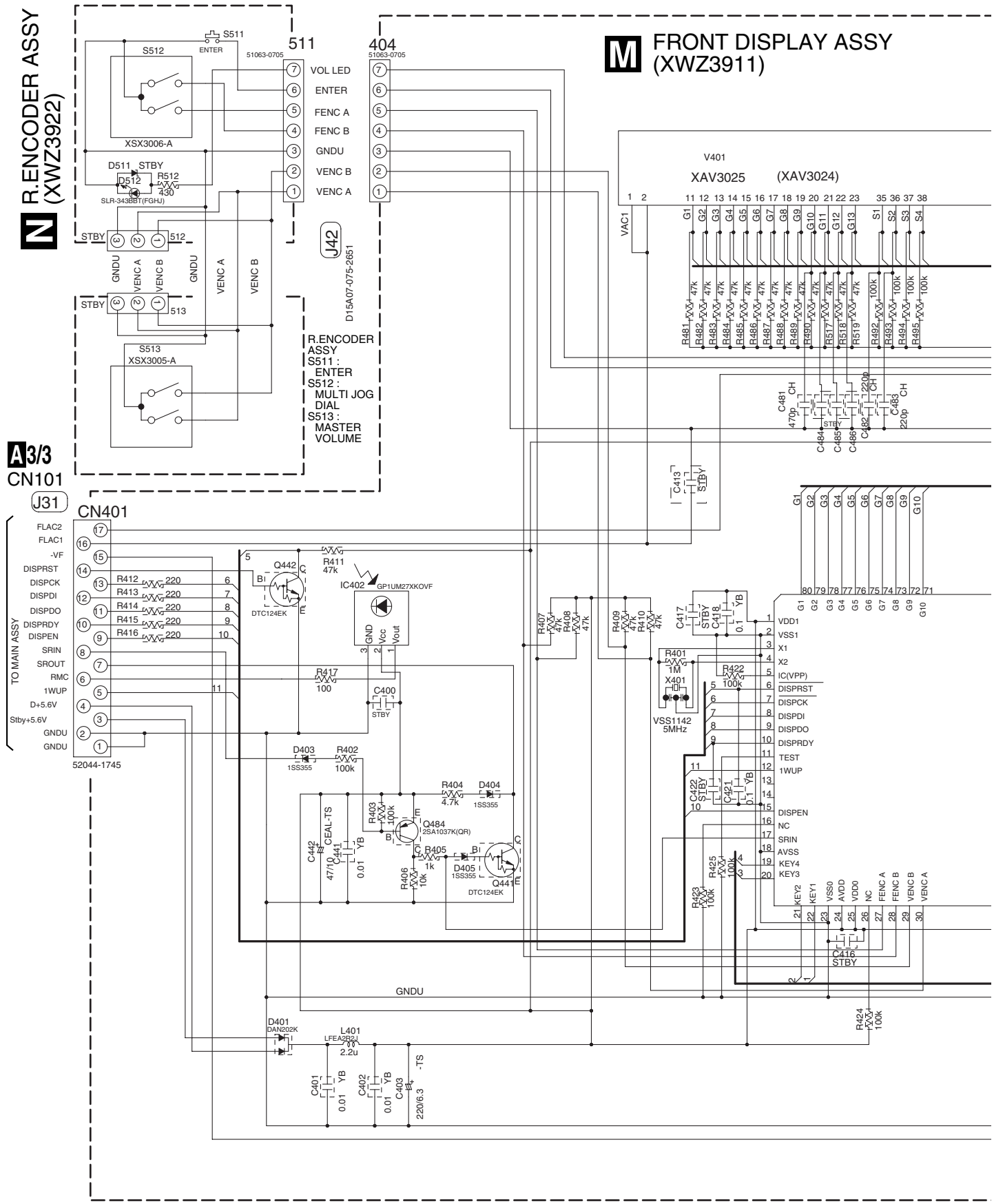
Except VSX-915/KUXJ/CA

MON OUT
CN355 AKP7179
CN352(1/2) XKB3051
VCR OUT
CHASSIS

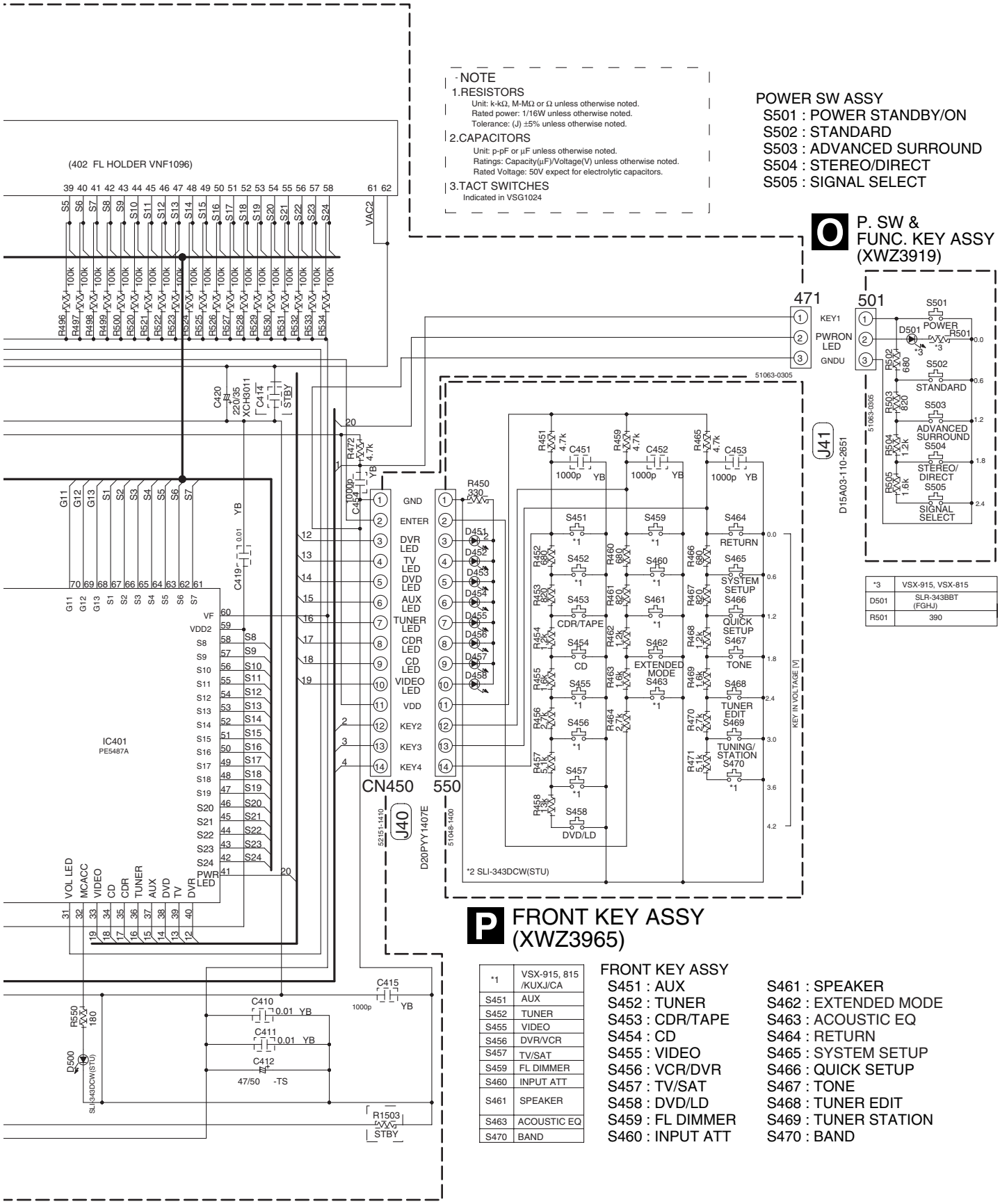
VIDEO SIGNAL FLOW
AUDIO SIGNAL FLOW

K L

3.11 FRONT DISPLAY, R. ENCODER, P. SW&FUNC KEY and F. KEY ASSYS



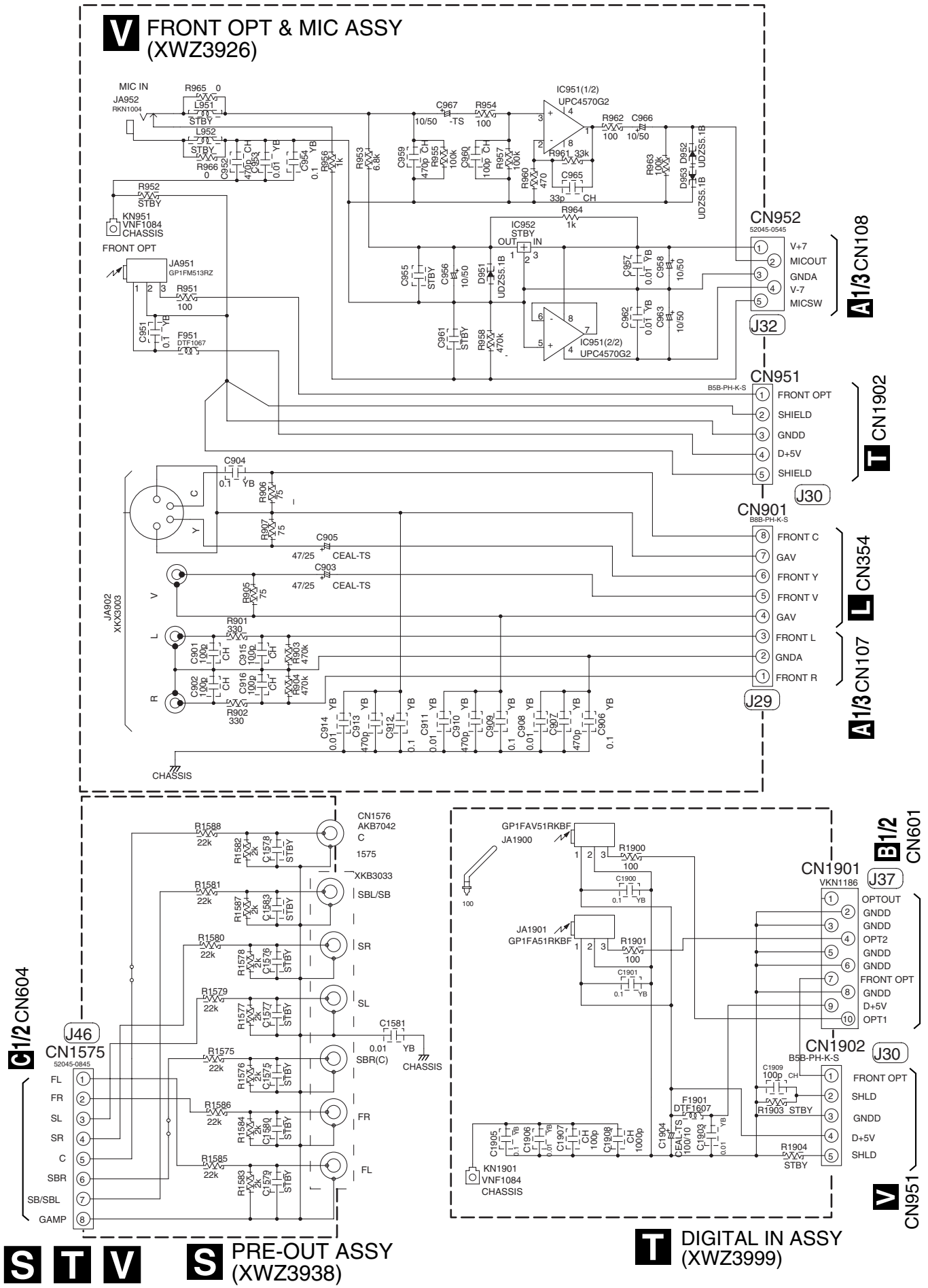
M N

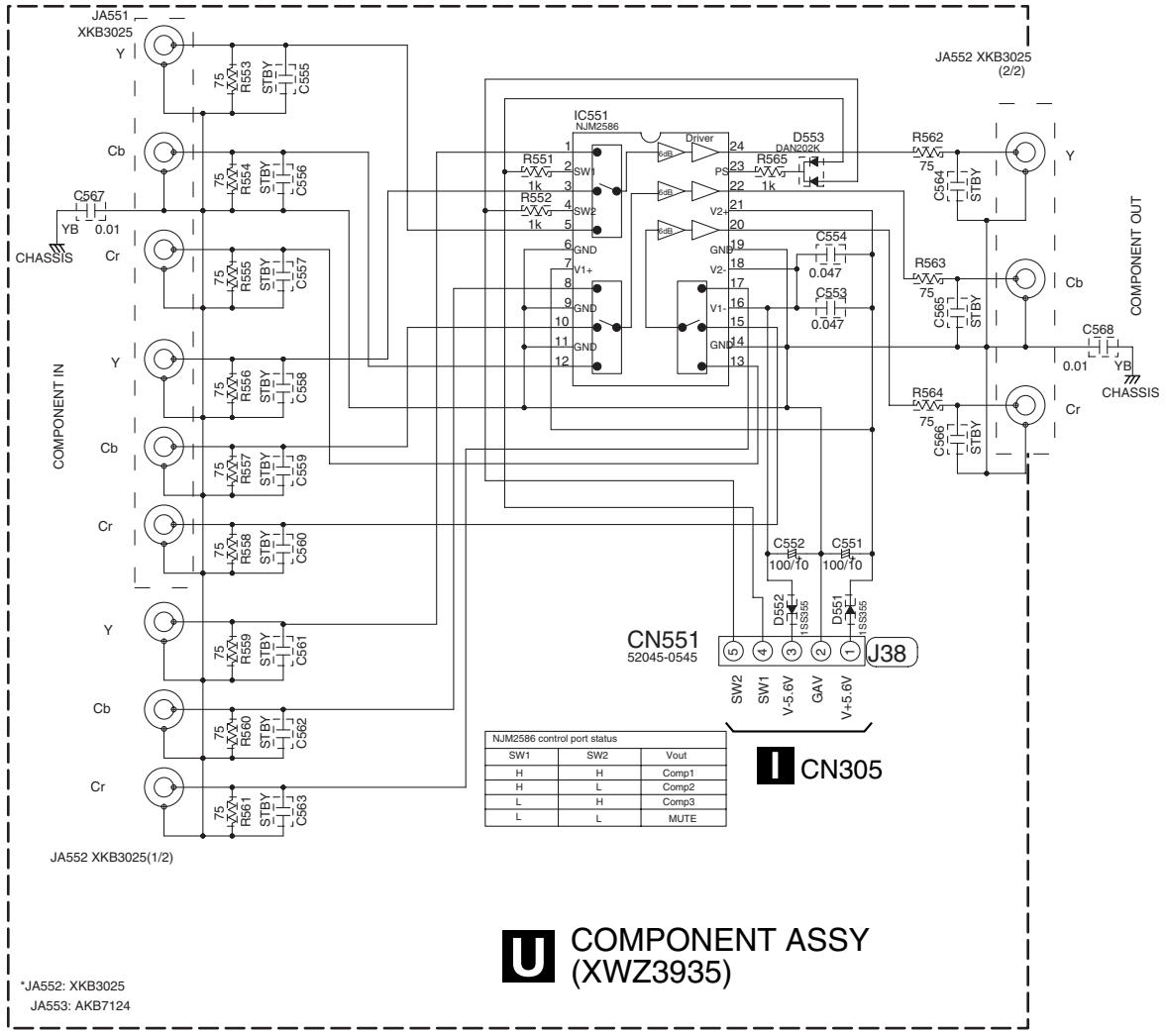


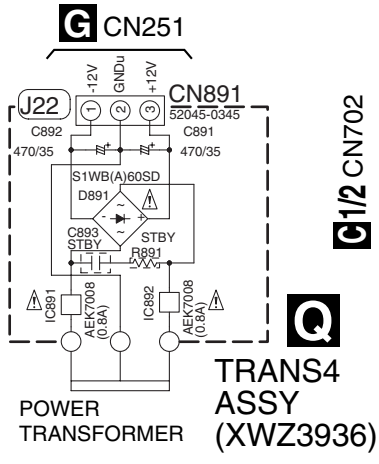
*1	VSX-915, 815 /KUXJ/CA
S451	AUX
S452	TUNER
S455	VIDEO
S456	DVR/VCR
S457	TV/SAT
S459	FL DIMMER
S460	INPUT ATT
S461	SPEAKER
S463	ACOUSTIC EQ
S470	BAND

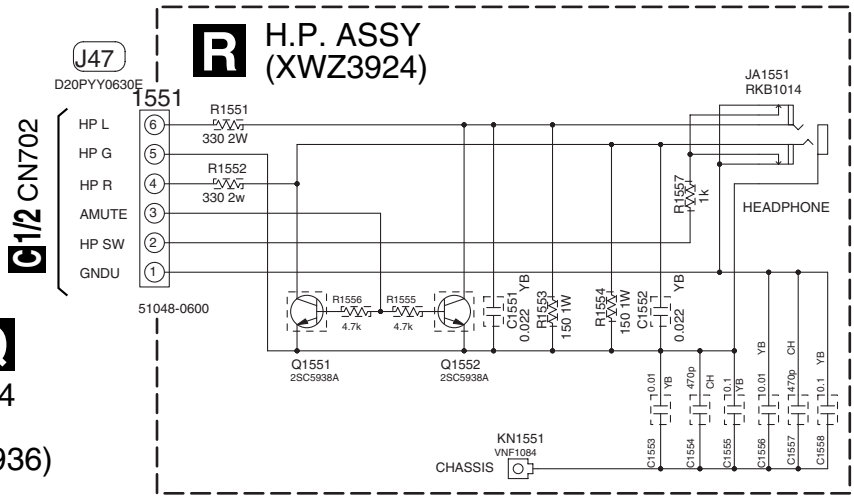
*3	VSX-915, VSX-815
D501	SLR-343BBT (FGHJ)
R501	390

3.12 TRANS4, H.P., PRE-OUT, D. IN, COMPONENT and F.OPT & MIC ASSYS









CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.800 FOR IC891 AND IC892 MFD, BY LITTELFUSE INC.

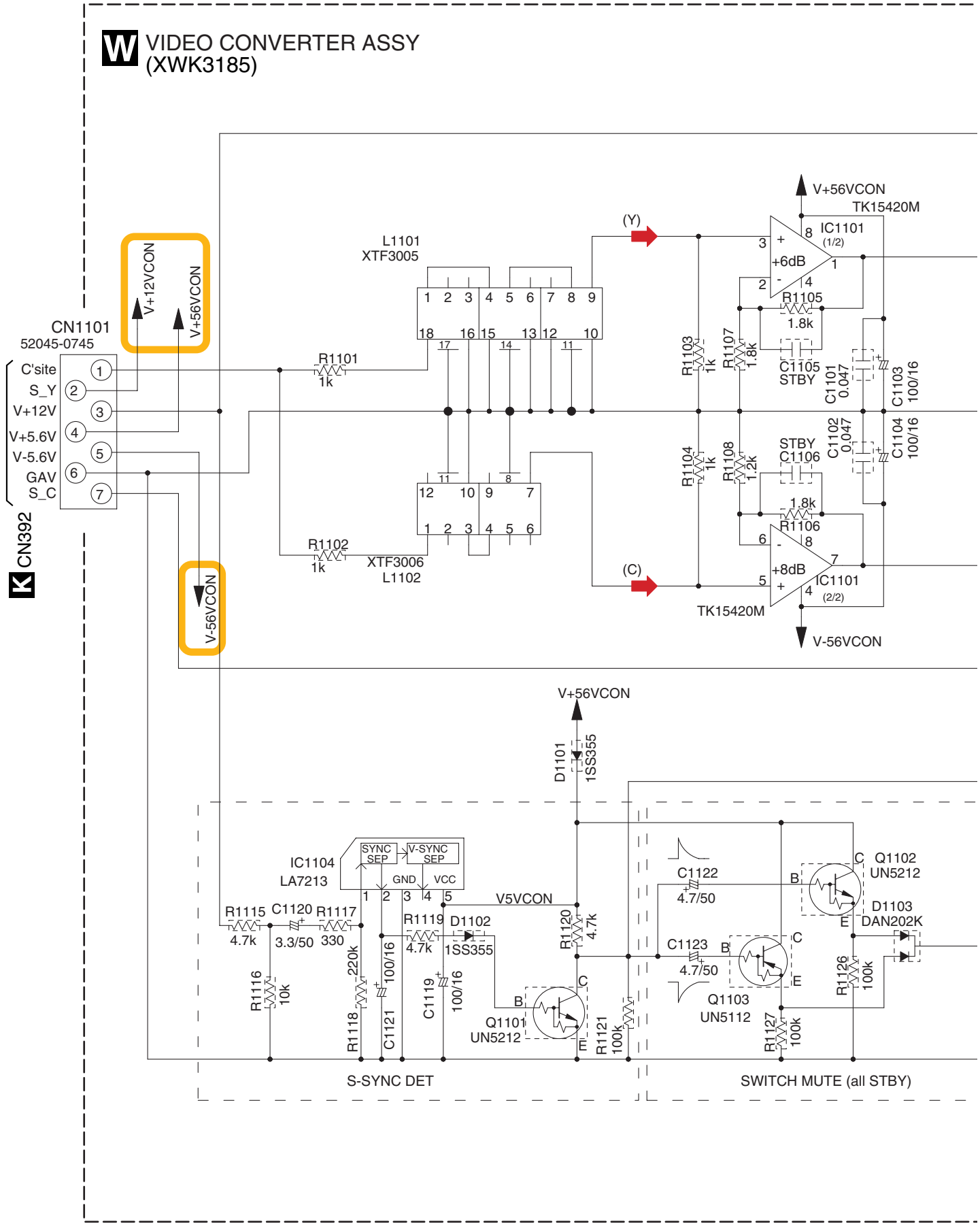
NOTE

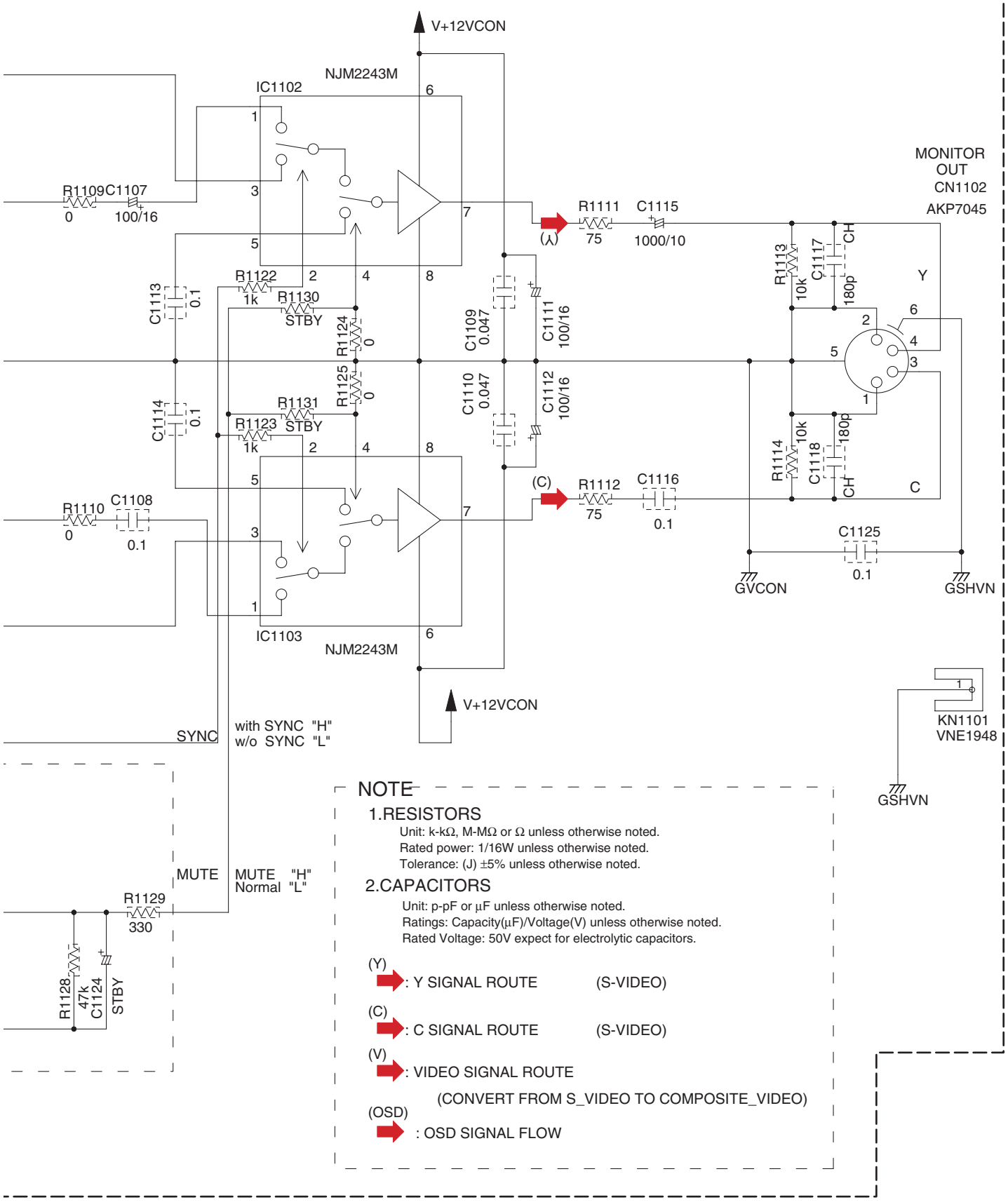
1.RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.

2.CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

Q R U

3.13 VIDEO CONVERTER ASSY





NOTE

1.RESISTORS

Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.

2.CAPACITORS

Unit: p-pF or µF unless otherwise noted.
Ratings: Capacity(µF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.

(Y) ➡ : Y SIGNAL ROUTE (S-VIDEO)

(C) ➡ : C SIGNAL ROUTE (S-VIDEO)

(V) ➡ : VIDEO SIGNAL ROUTE
(CONVERT FROM S_VIDEO TO COMPOSITE_VIDEO)

(OSD) ➡ : OSD SIGNAL FLOW

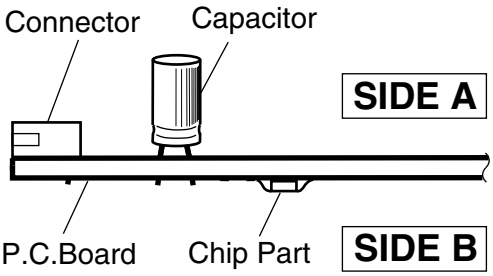
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

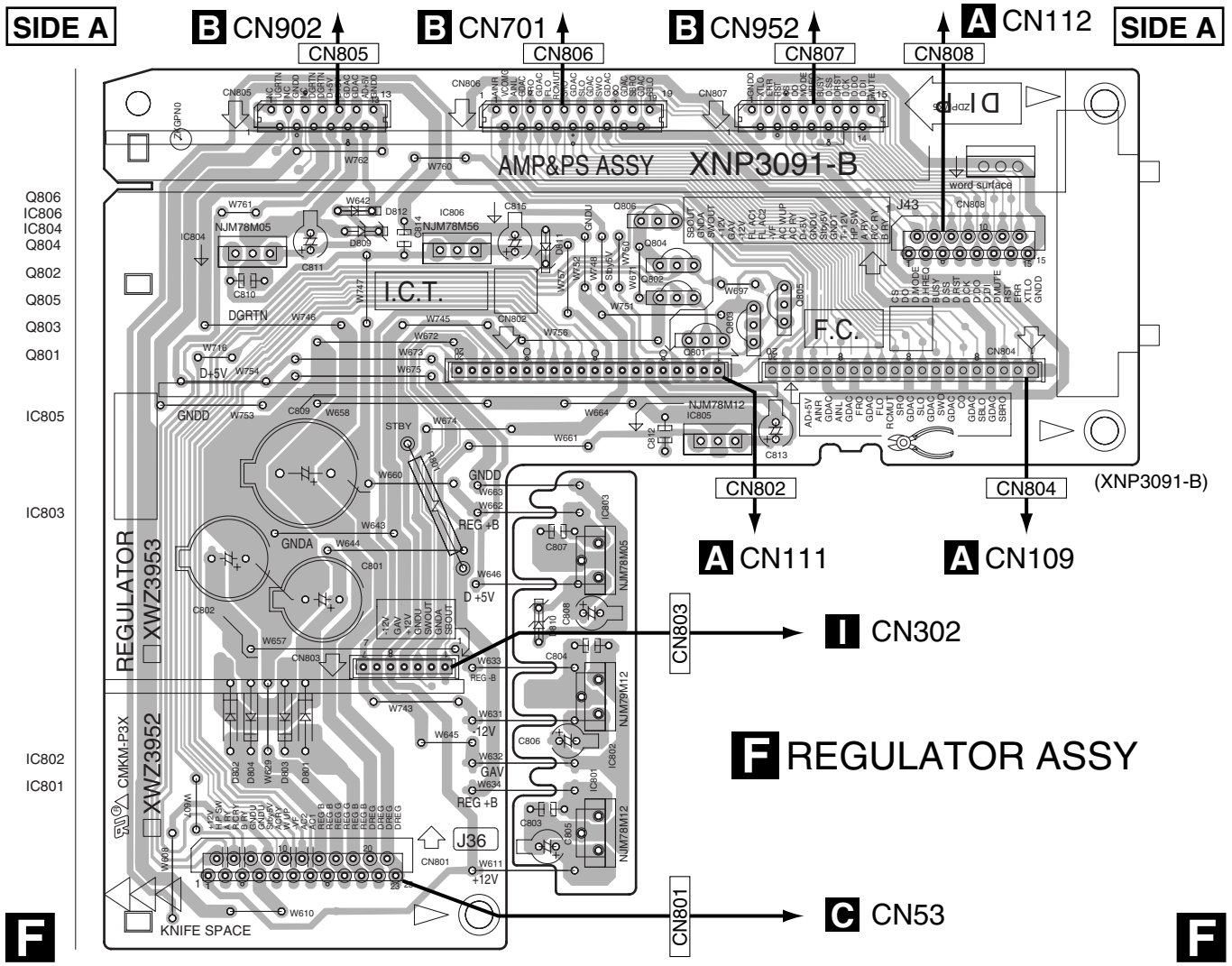
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

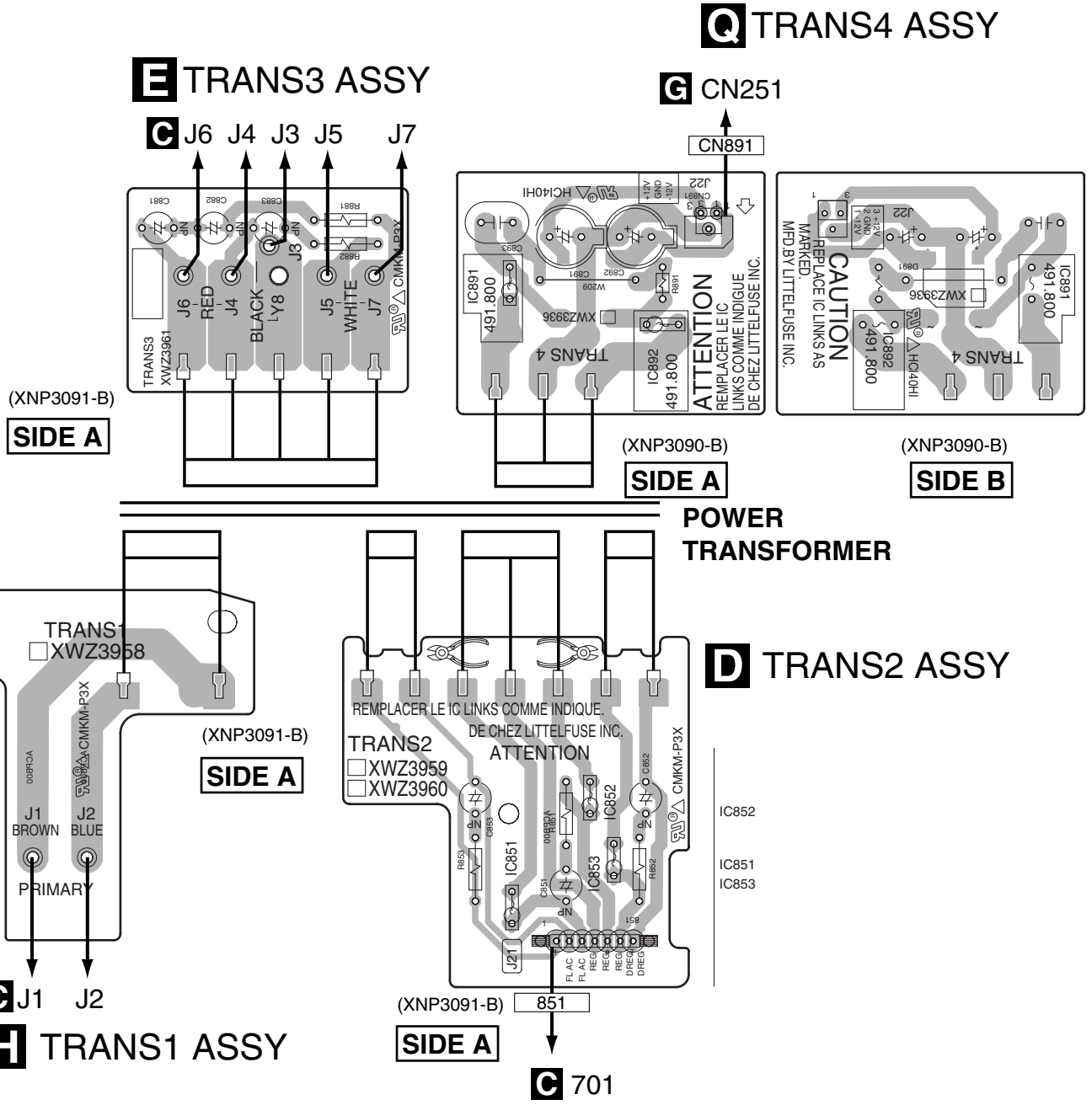


4.1 REGULATOR ASSY



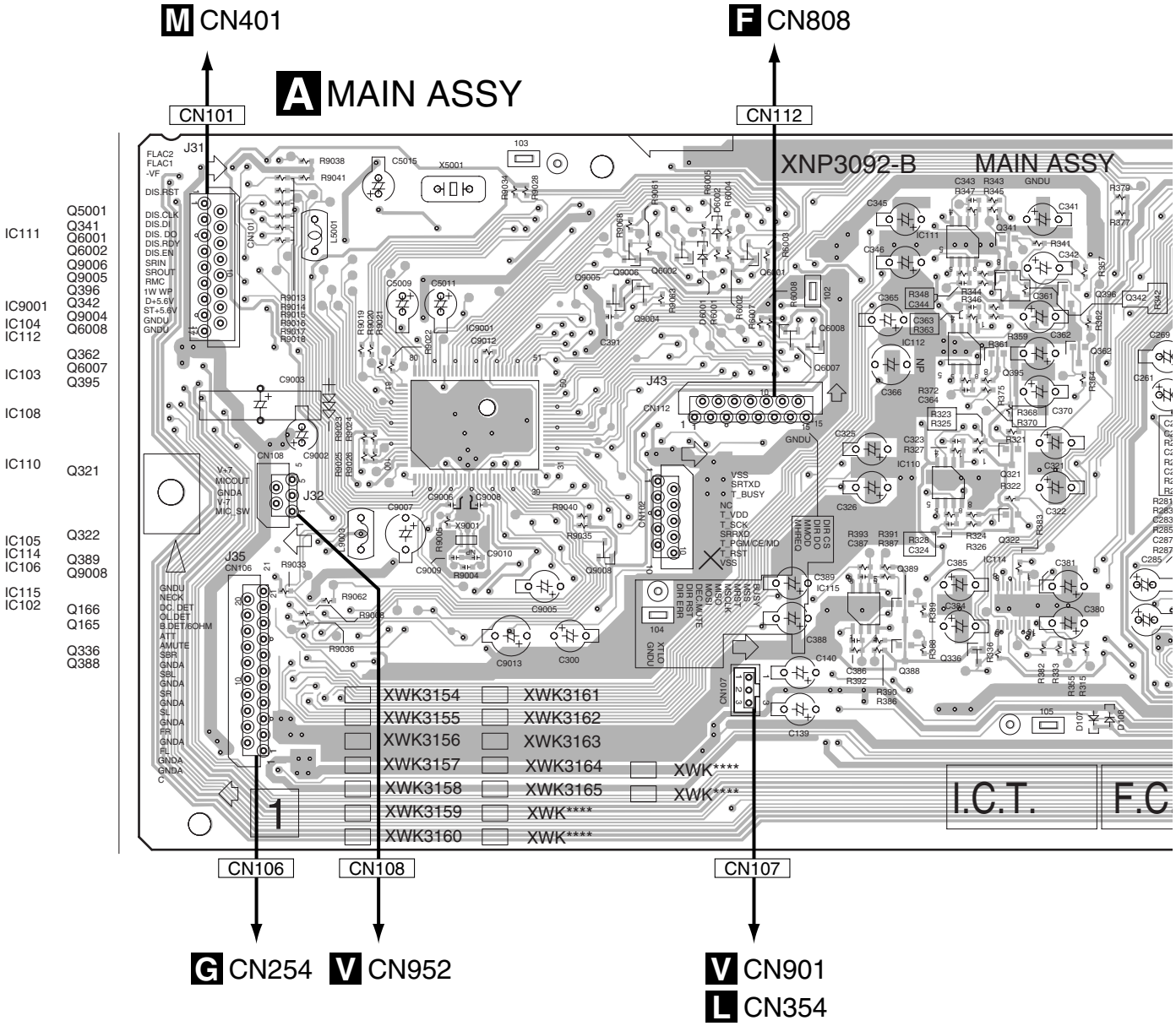
4.2 TRANS2, TRANS3, TRANS1 and TRANS4 ASSYS

SIDE A **SIDE B**

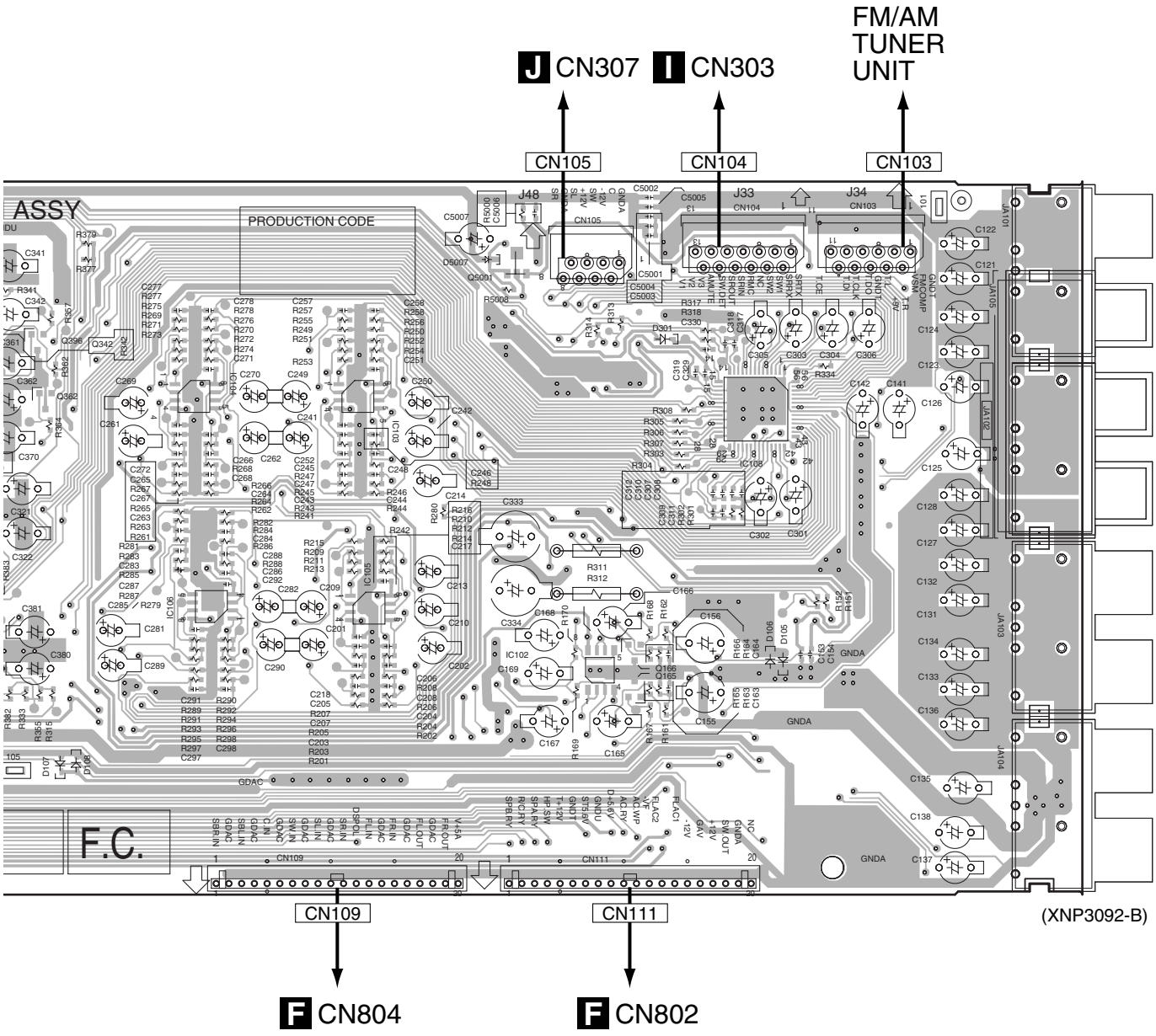


4.3 MAIN ASSY

SIDE A



SIDE A

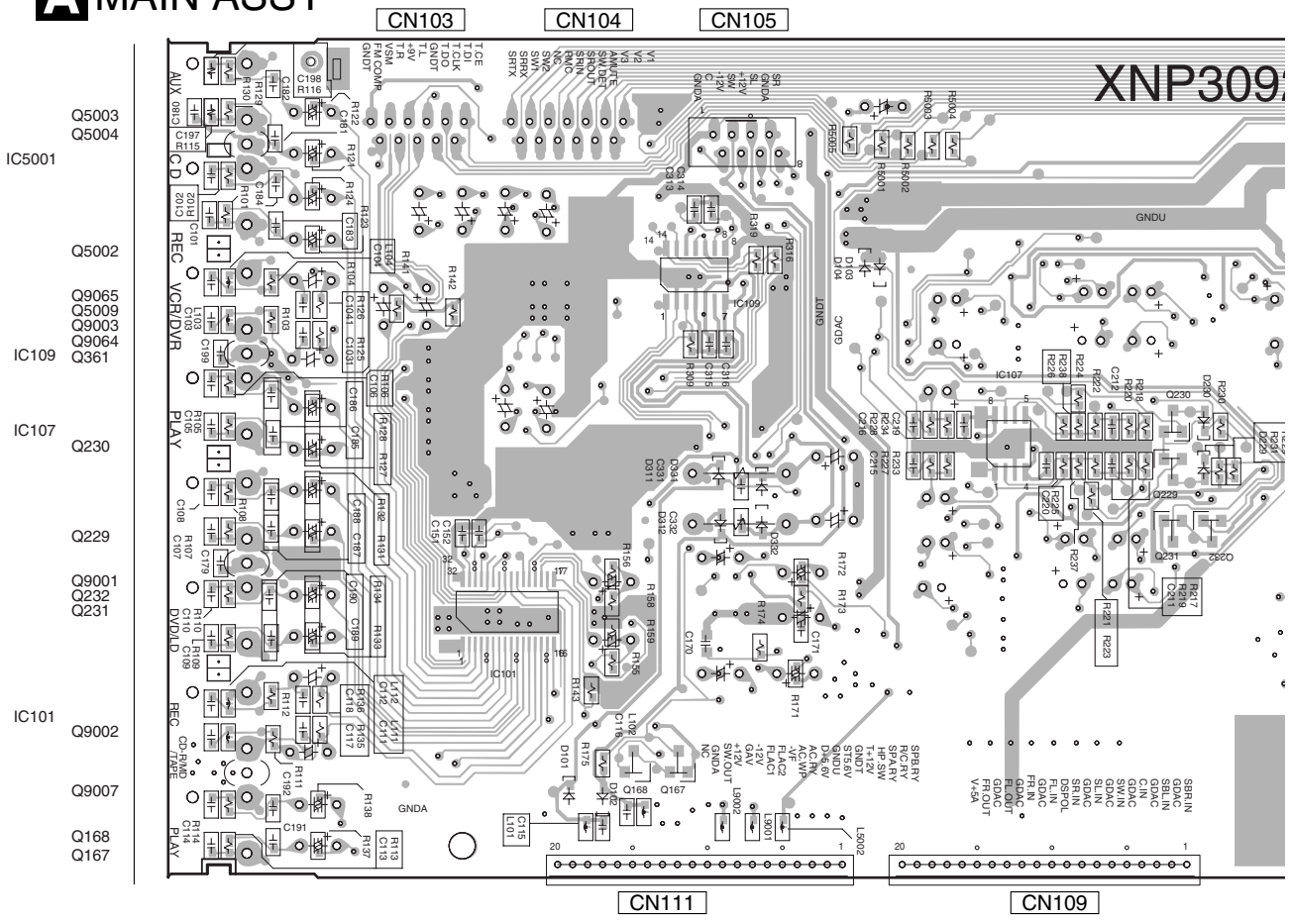

FM/AM
TUNER
UNIT
J CN307
I CN303
CN105
CN104
CN103
ASSY
PRODUCTION CODE
F.C.
CN109
CN111
F CN804
F CN802
(XNP3092-B)

SIDE B

A

B

A MAIN ASSY



A

SIDE B

A

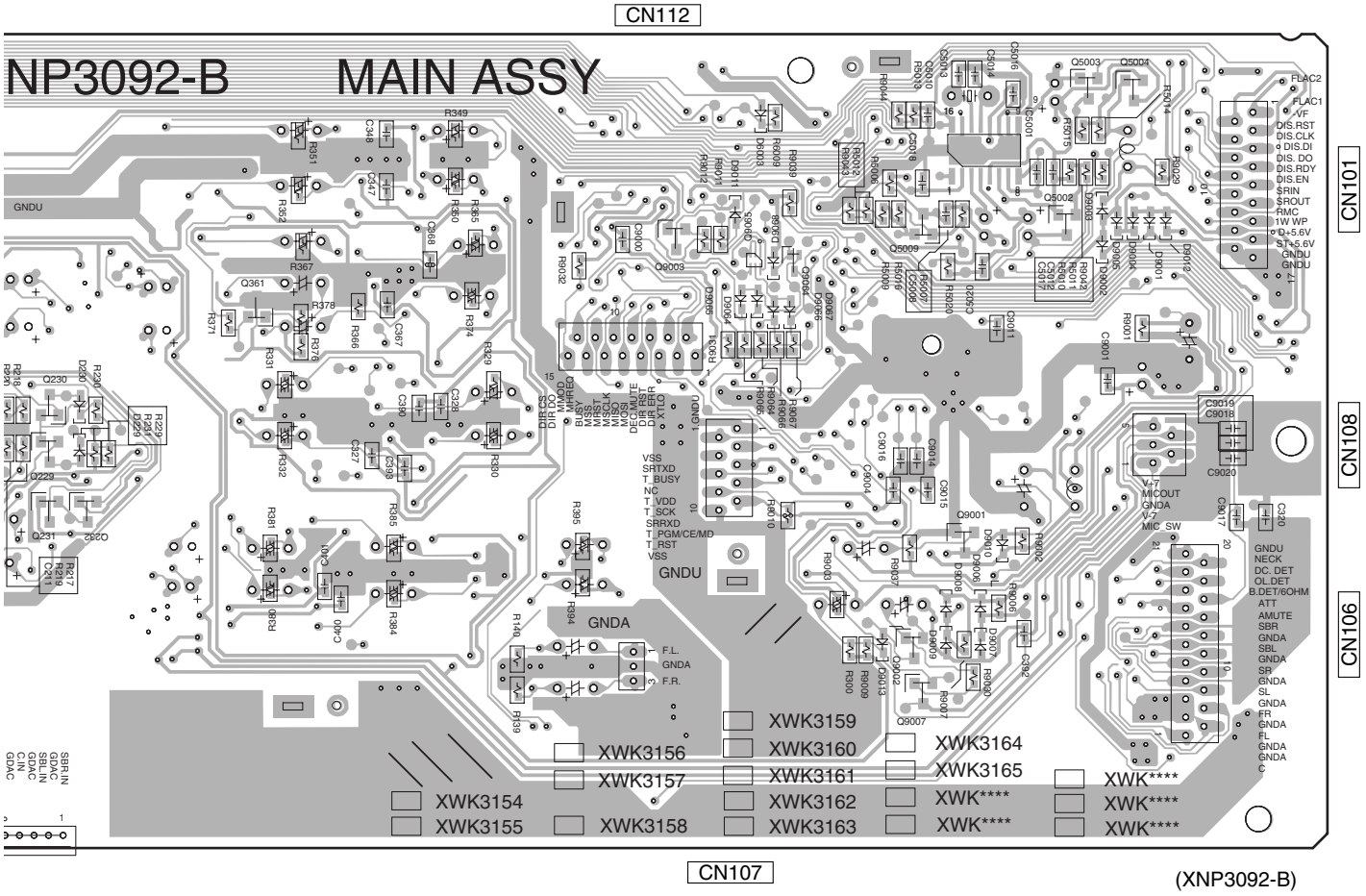
B

C

D

E

F



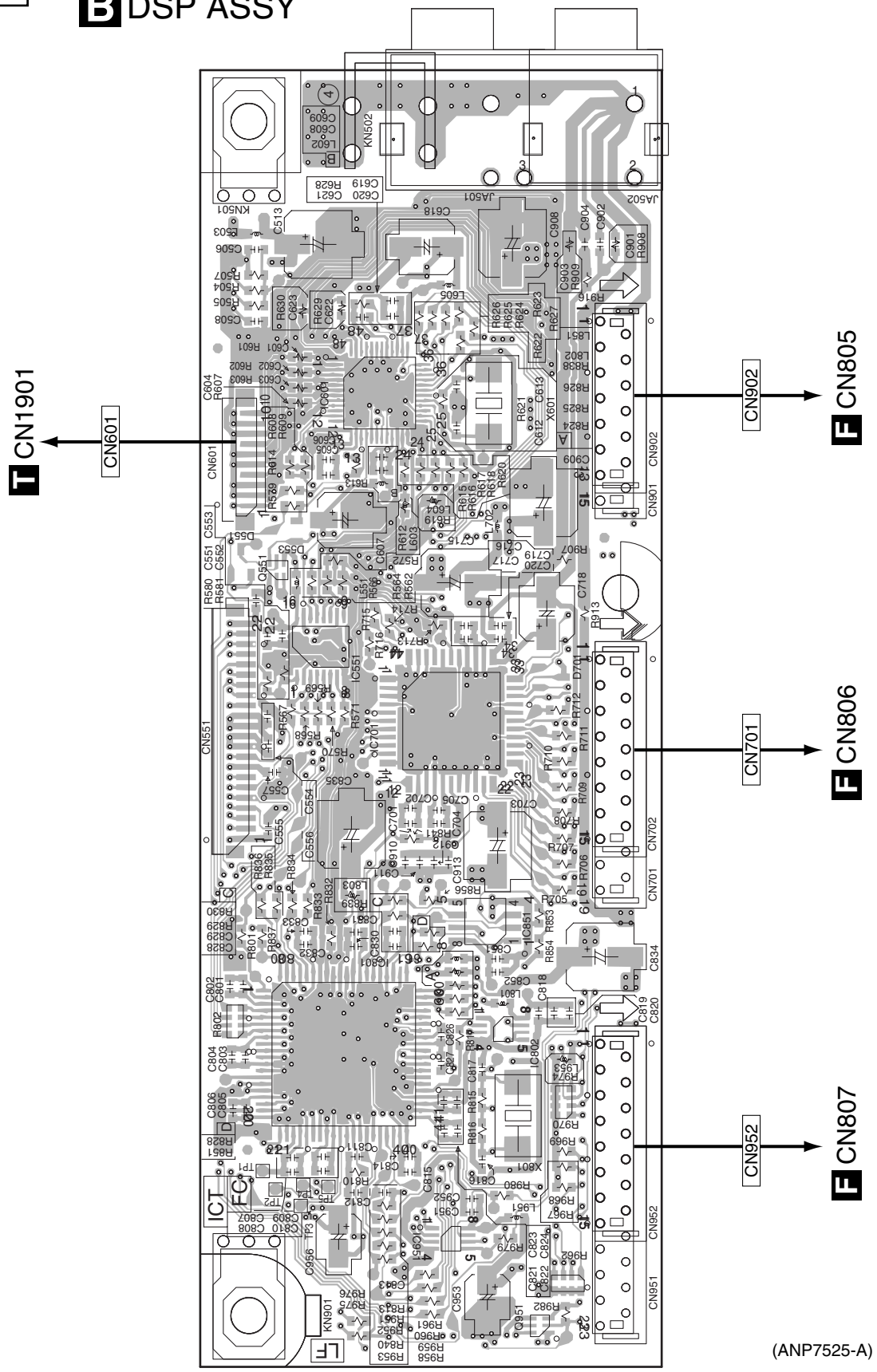
(XNP3092-B)

4.4 DSP ASSY

SIDE A

B DSP ASSY

SIDE A

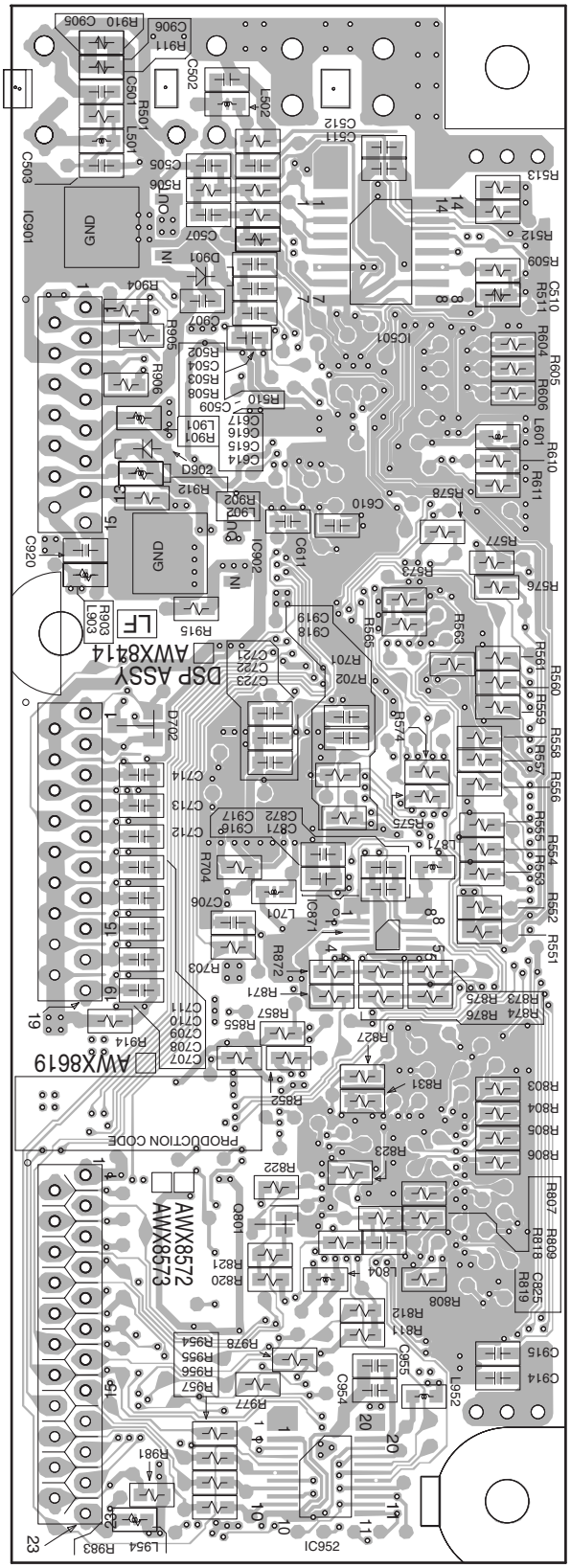


(ANP7525-A)

SIDE B

B DSP ASSY

SIDE B



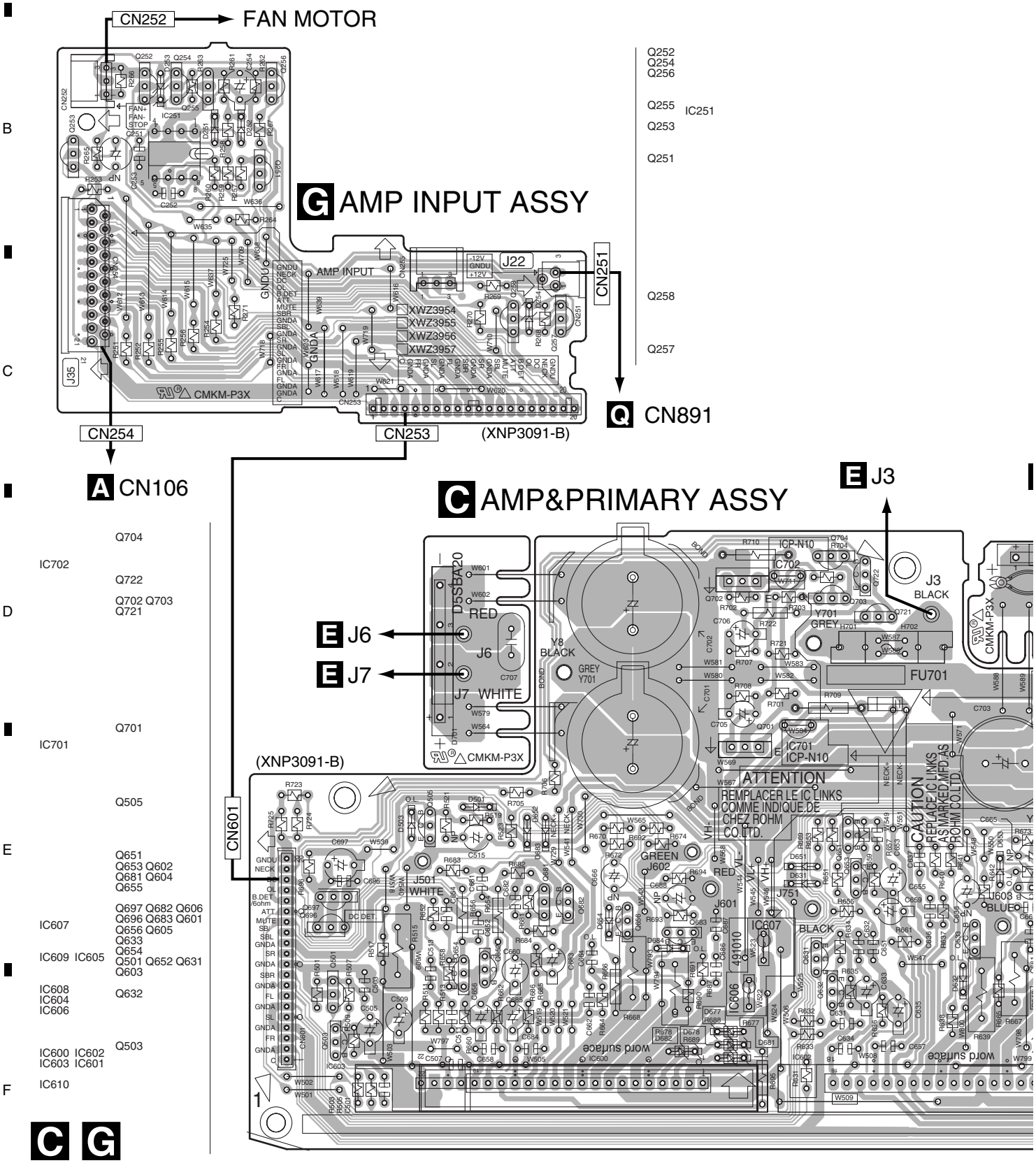
(ANP7525-A)

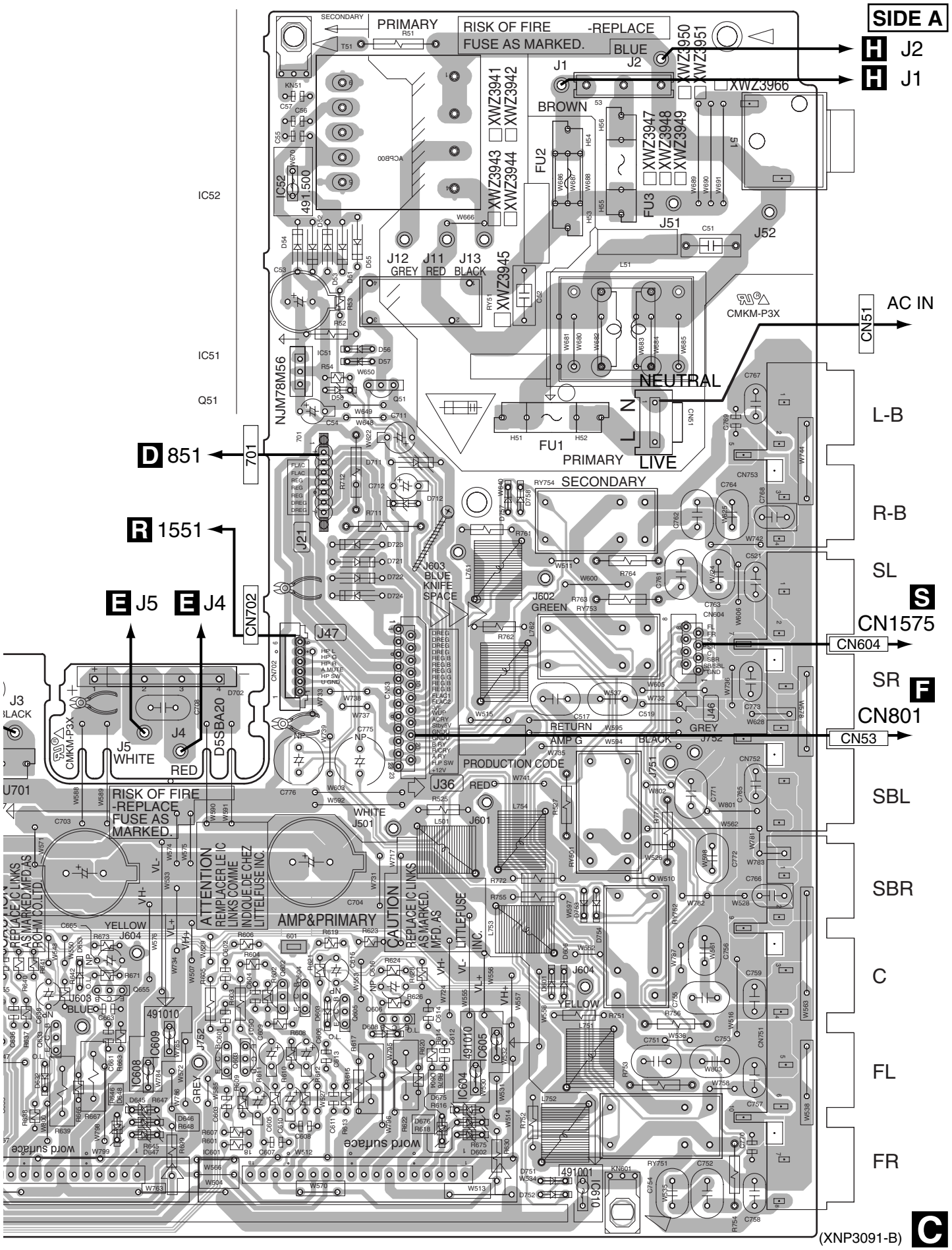
B

B

4.5 AMP & PRIMARY and AMP INPUT ASSYS

SIDE A

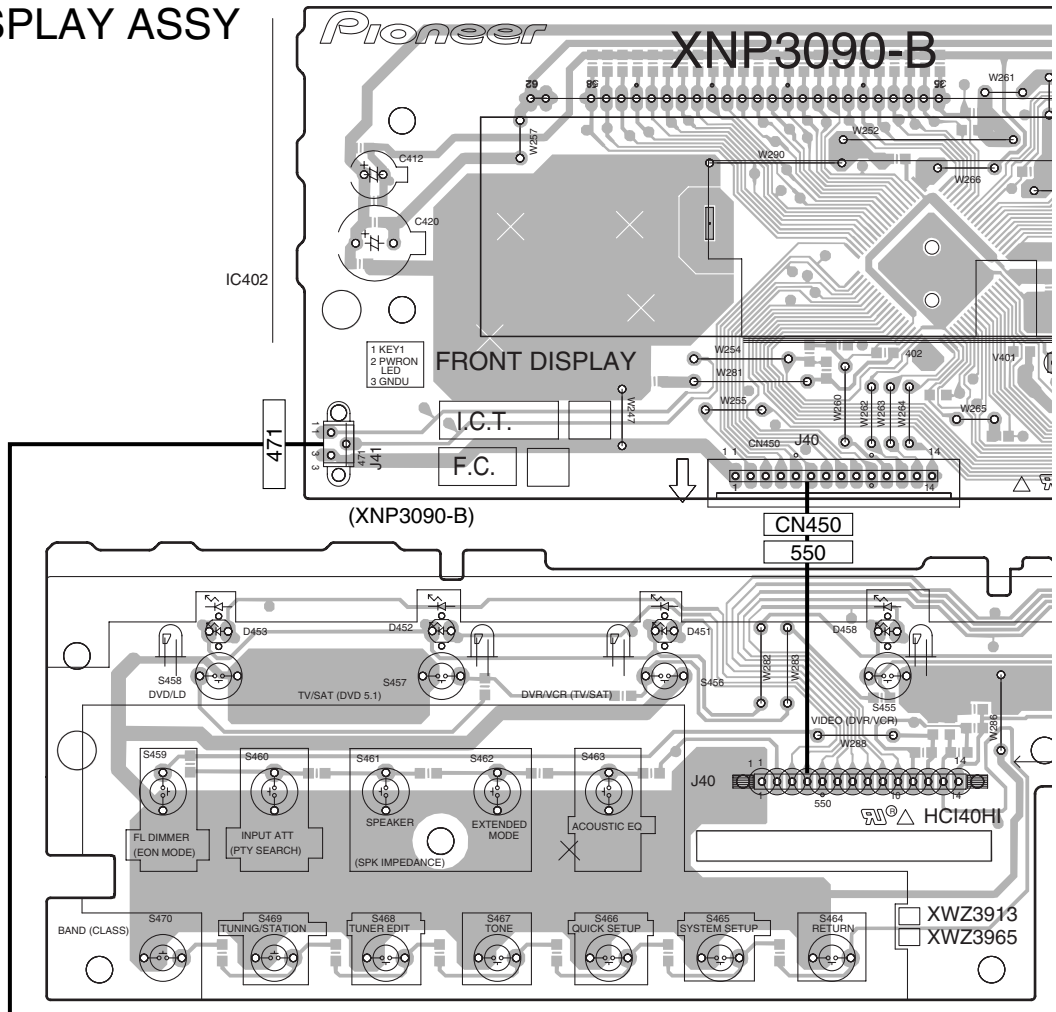



SIDE A
H J2
H J1
AC IN
CN51
CMKM-P3X
NEUTRAL
LIVE
PRIMARY
SECONDARY
FU1
FU2
FU3
D 851
R 1551
E J5
E J4
CN702
701
J5 WHITE
J4 RED
D5SBA20
CMKM-P3X
J3 BLACK
J2 BLUE
J1 BROWN
J51
J52
J12 GREY
J11 RED
J13 BLACK
XWZ3941
XWZ3942
XWZ3943
XWZ3944
XWZ3945
XWZ3947
XWZ3948
XWZ3949
XWZ3950
XWZ3951
XWZ3966
IC52
491500
IC51
NJM78M56
Q51
J603 BLUE KNIFE SPACE
J602 GREEN
J47
J21
J36 RED
J501 WHITE
J601
J604 YELLOW
J604 BLUE
J752 GREY
J751
J46
J752 BLACK
RETURN
AMP G
PRODUCTION CODE
AMP&PRIMARY
RISK OF FIRE -REPLACE FUSE AS MARKED.
ATTENTION REMPLACER LE IC LINKS COMME INDIQUE DE CHEZ LITTELFUSE INC.
CAUTION REPLACE IC LINKS AS MARKED. MFD. AS LITTELFUSE INC.
REPLACE IC LINKS AS MARKED MFD AS ROHM COLTD
word surface
491010
491001
IC609
IC608
IC605
IC604
IC610
KN601
RY751
RY754
RY753
S CN1575
CN604
SR
F CN801
CN53
L-B
R-B
SL
SBL
SBR
C
FL
FR
(XNP3091-B)
C

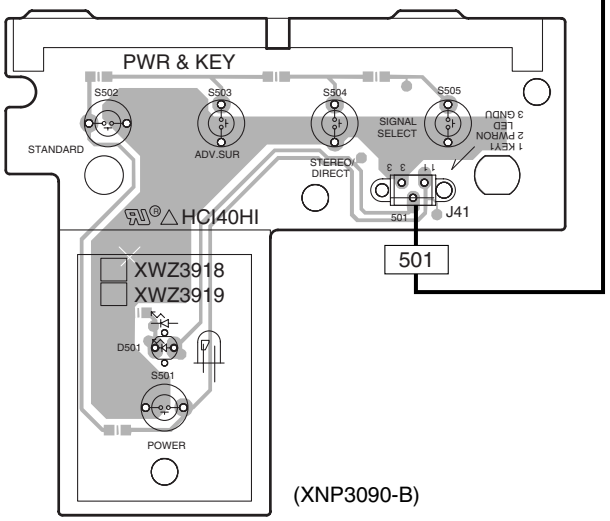
4.6 F. DISPLAY, R. ENCODER, P. SW & KEY, H. P. and F. KEY ASSYS

SIDE A

M FRONT DISPLAY ASSY

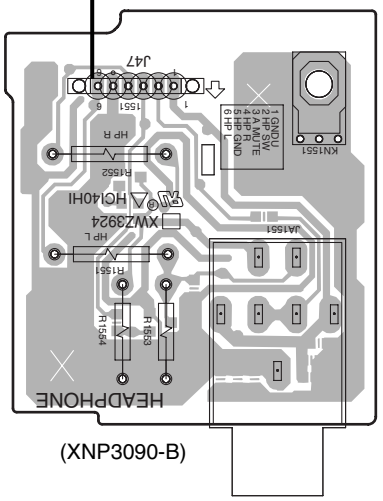


O POWER SW & KEY ASSY

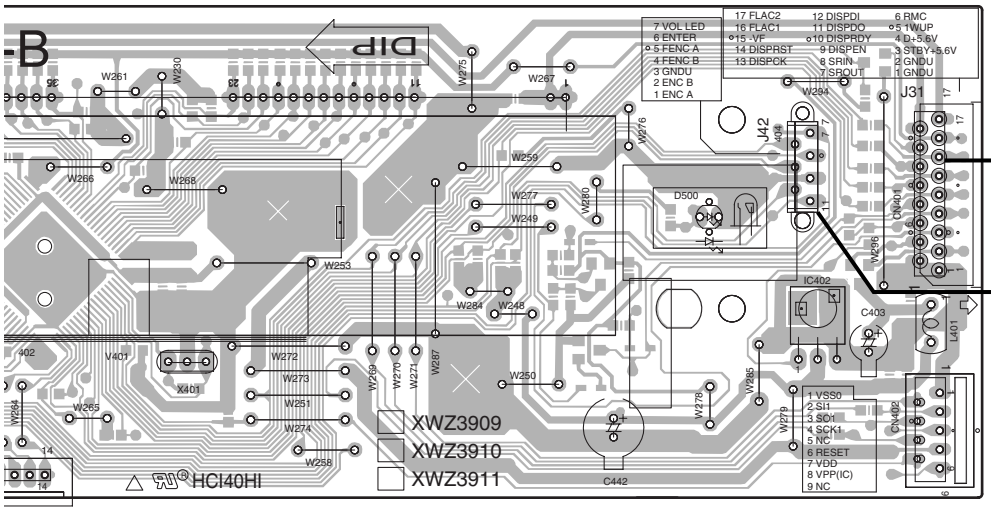


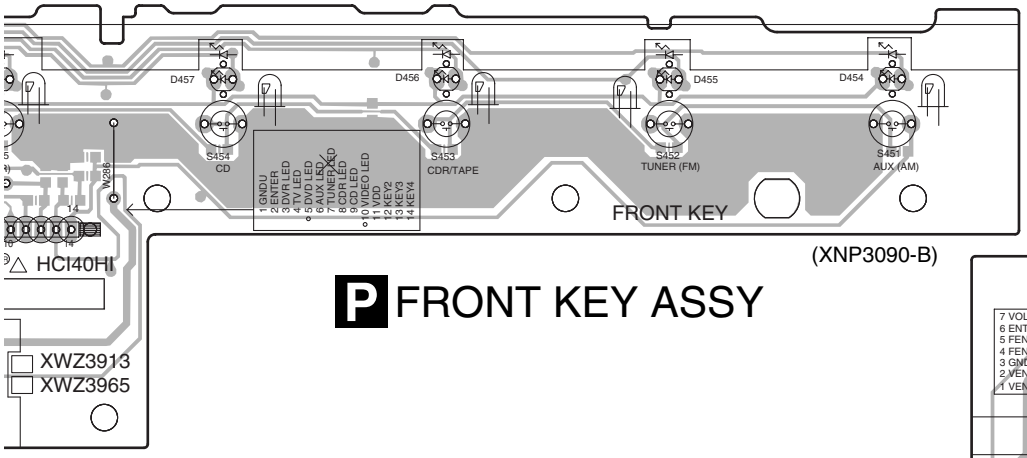
C CN702

R H.P ASSY



SIDE A

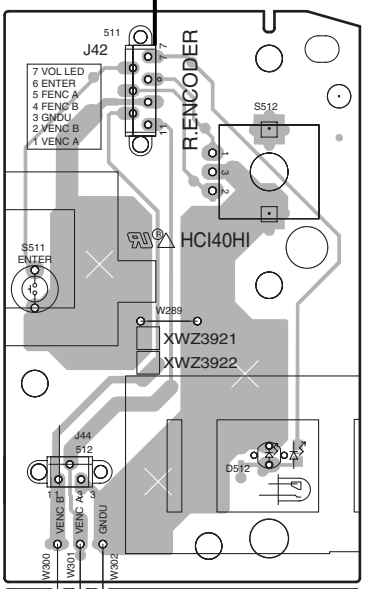


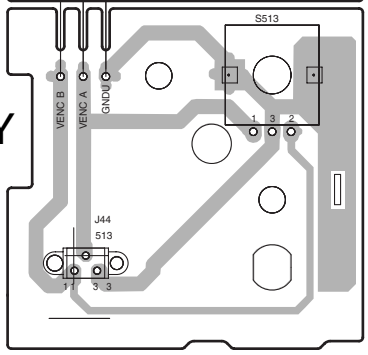


P FRONT KEY ASSY

(XNP3090-B)

511





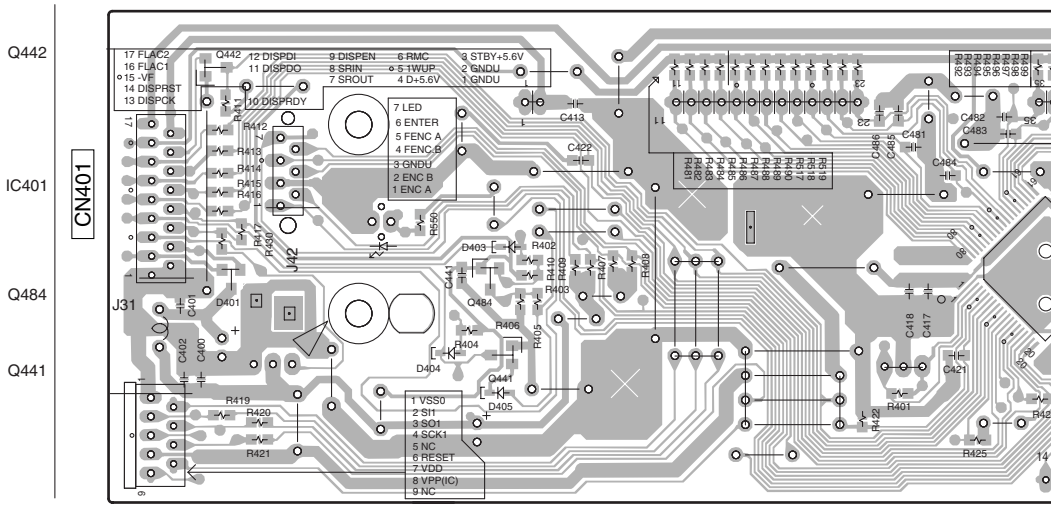
N R.ENCODER ASSY

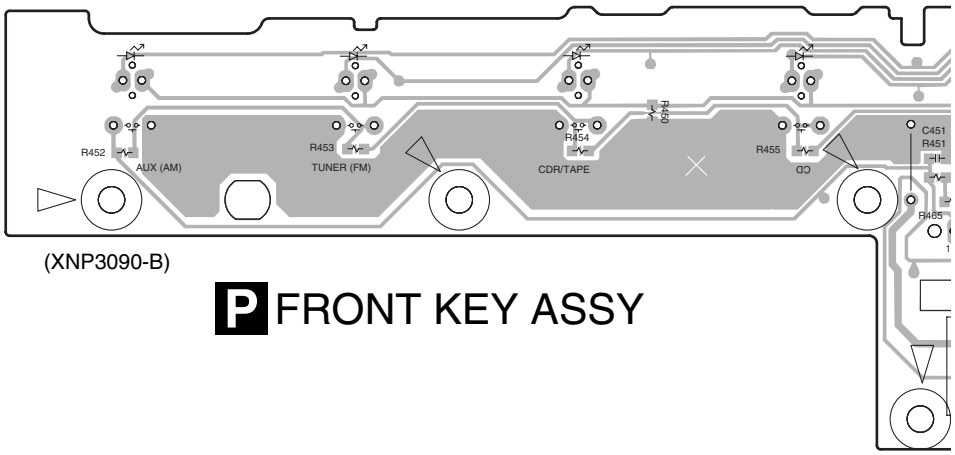
(XNP3090-B)

M N P

SIDE B

404

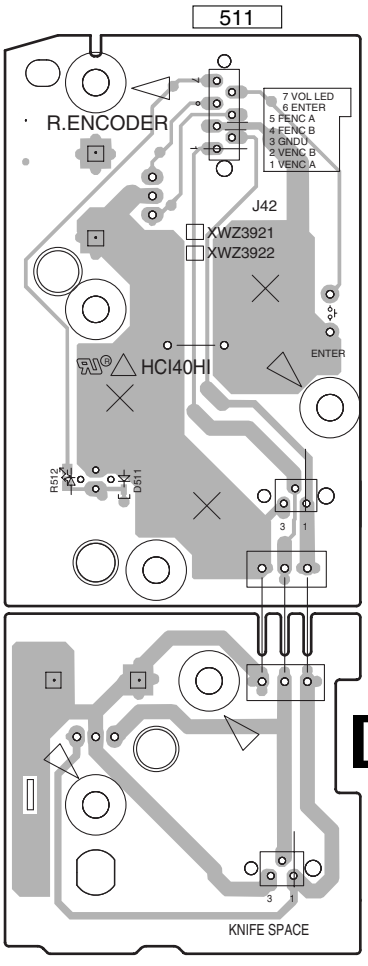




(XNP3090-B)

P FRONT KEY ASSY

511



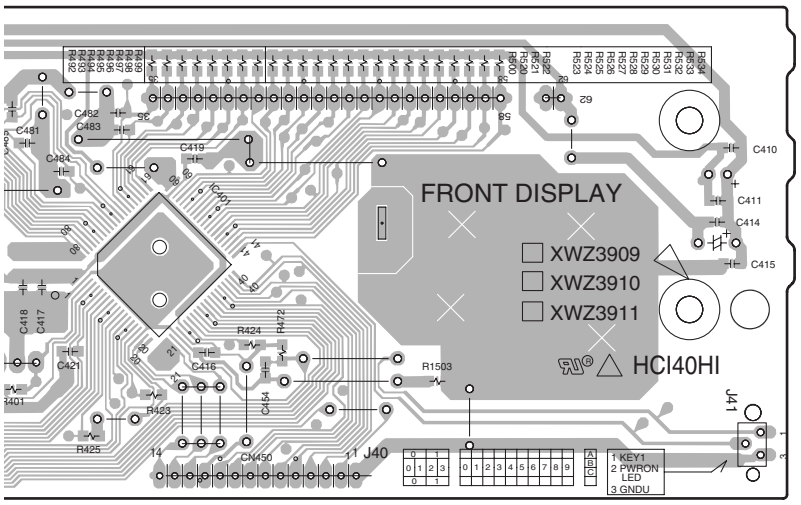
(XNP3090-B)

N R.ENCODER ASSY

M N P

SIDE B

M FRONT DISPLAY ASSY

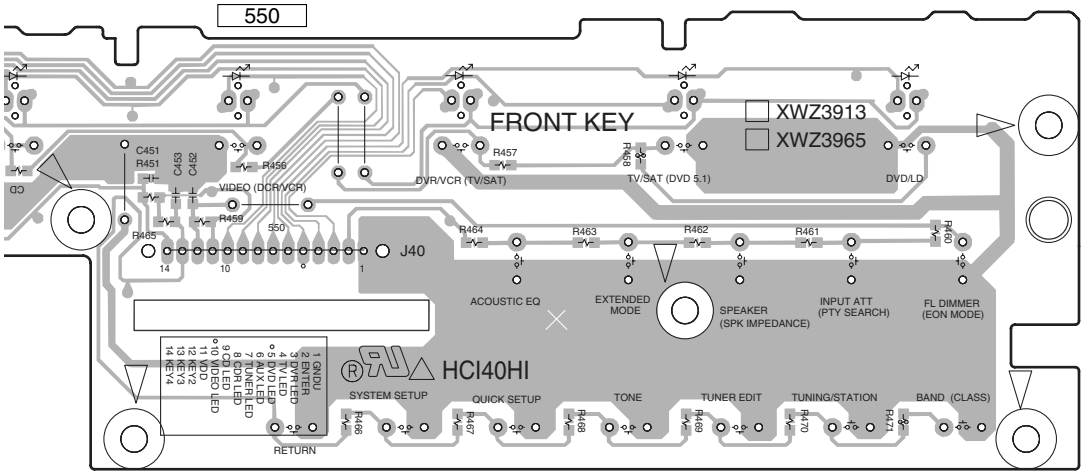


471

(XNP3090-B)

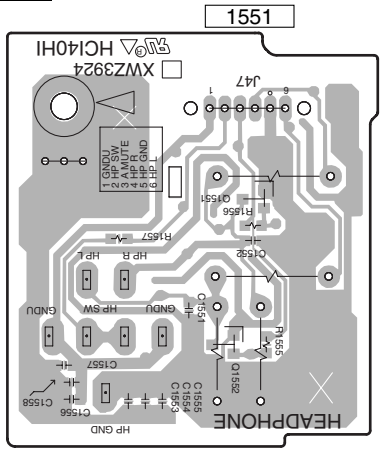
CN450

550



R H.P ASSY

1551

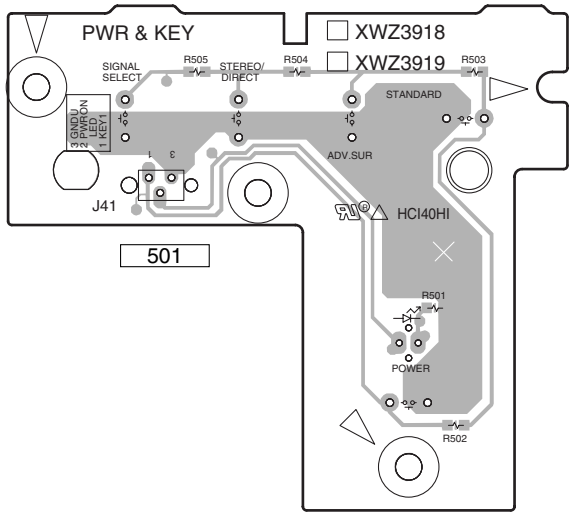


Q1551

Q1552

(XNP3090-B)

O POWER SW & KEY ASSY



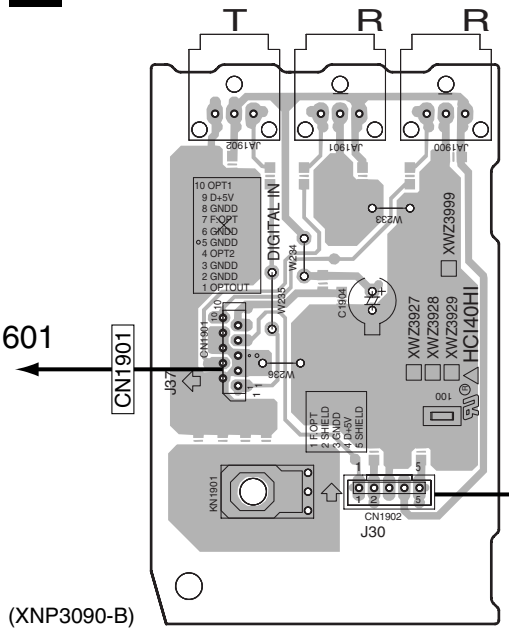
501

(XNP3090-B)

4.7 B TO B, DIGITAL IN, VIDEO, 5.1CH and VIDEO CONVERTER ASSYS

SIDE A

T DIGITAL IN ASSY



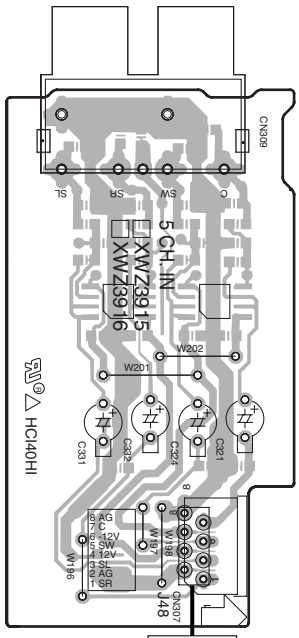
(XNP3090-B)

B CN601 — CN1901

CN1902 — **V** CN951

SIDE A

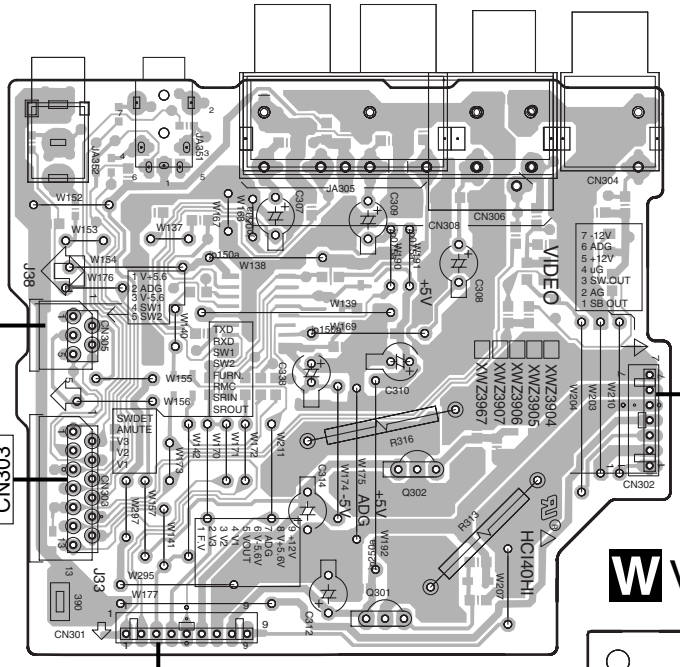
J 5.1CH ASSY



(XNP3090-B)

CN307 — **A** CN105

I VIDEO ASSY



U CN551 — CN305

A CN104 — CN303

Q302

Q301

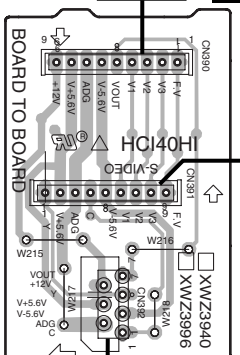
CN302 — **F** CN803

(XNP3090-B)

CN301

K B TO B ASSY

CN390



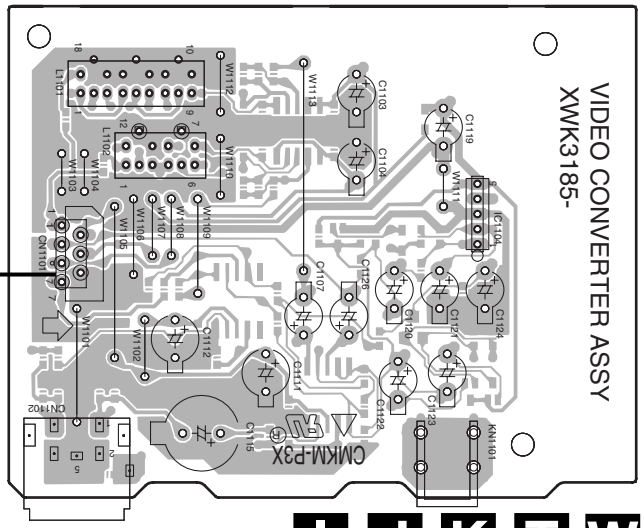
CN391 — **L** CN351

(XNP3090-B)

CN392

W VIDEO CONVERTER ASSY

(XNP3093-A)



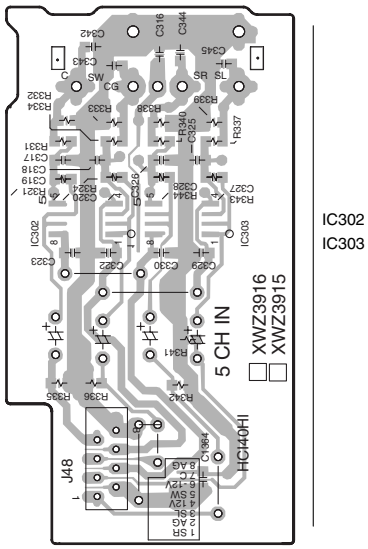
CN1101

I J K T W

SIDE B

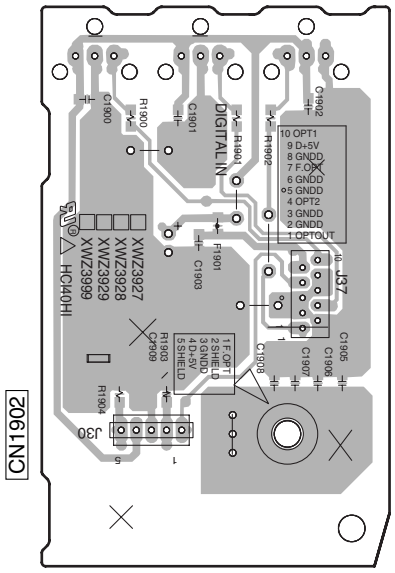
SIDE B

J 5.1CH ASSY



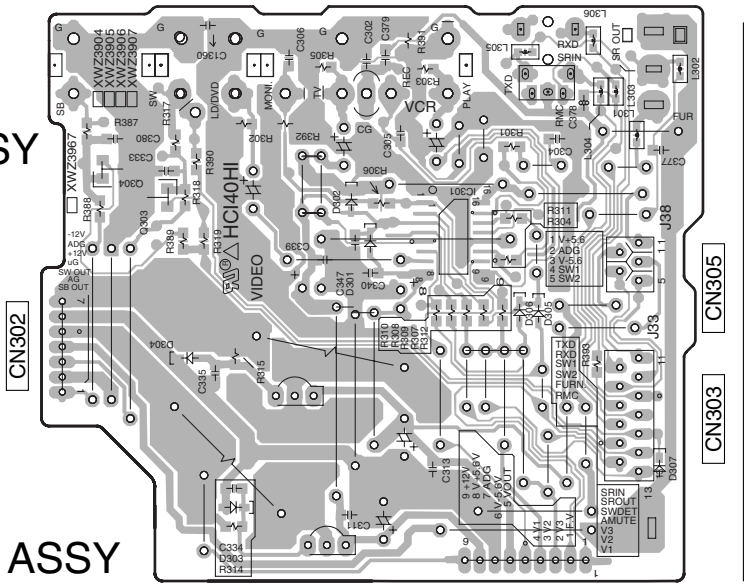
(XNP3090-B)

T DIGITAL IN ASSY



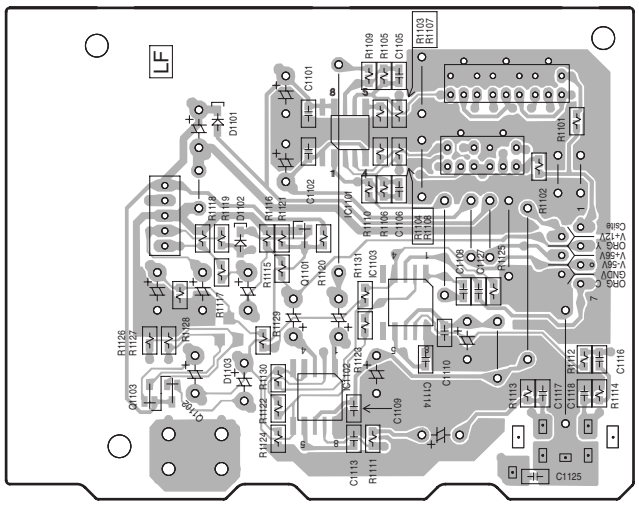
(XNP3090-B)

I VIDEO ASSY



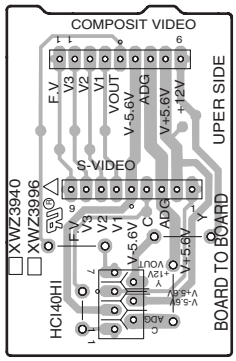
(XNP3090-B)

W VIDEO CONVERTER ASSY



(XNP3093-A)

K B TO B ASSY CN390

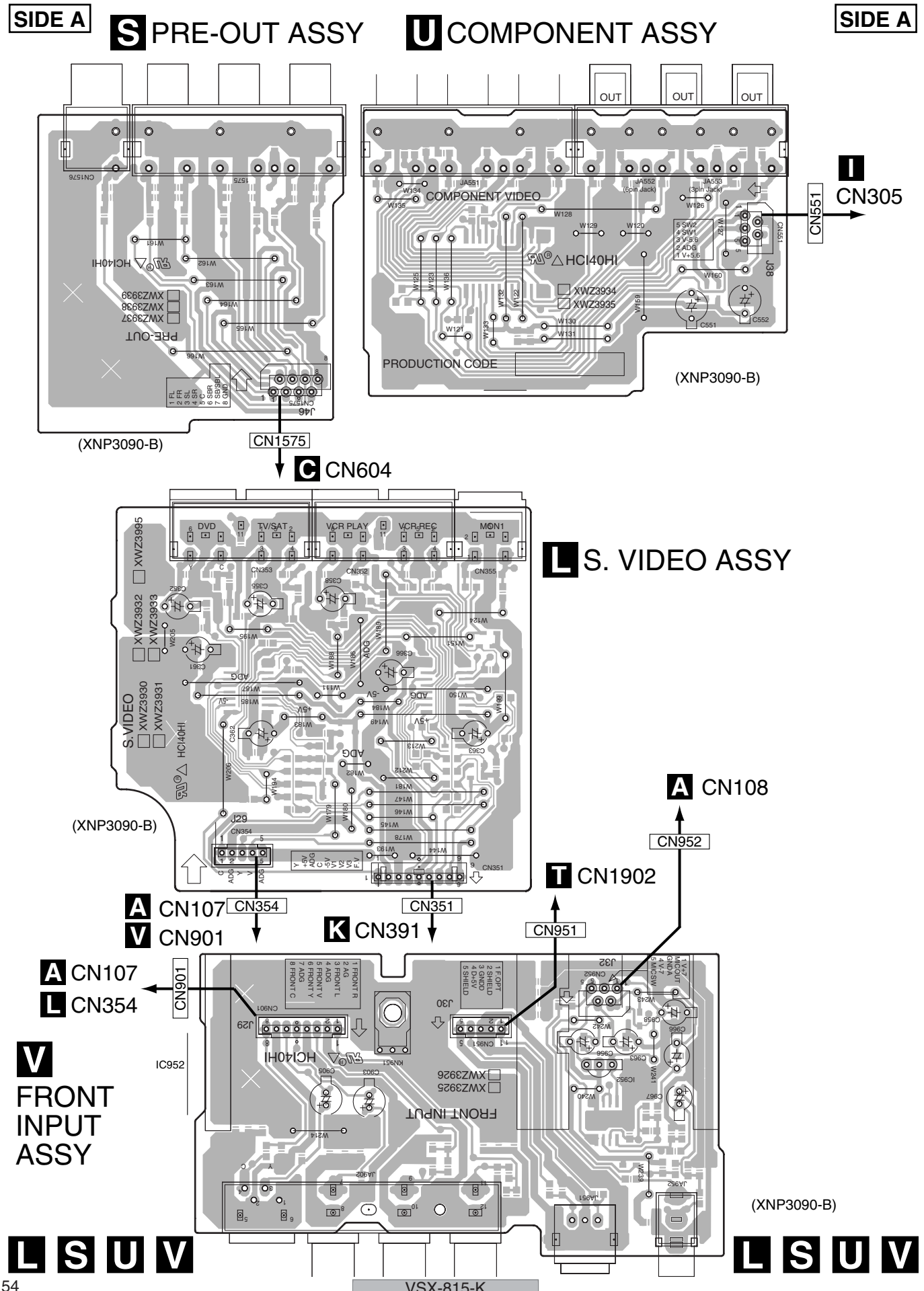


(XNP3090-B)

I J K T W

I J K T W

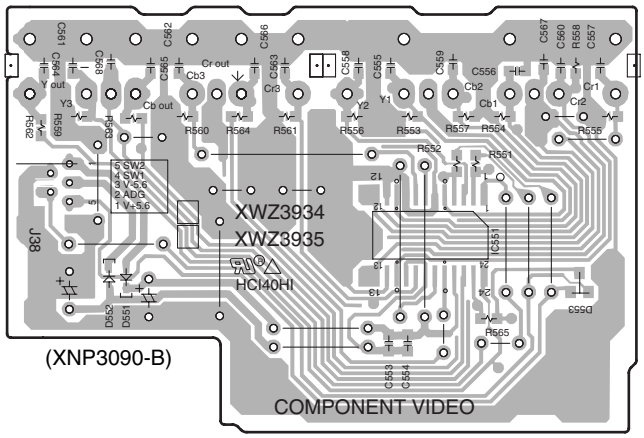
4.8 S.VIDEO, F. INPUT, COMPONENT and PRE-OUT ASSYS



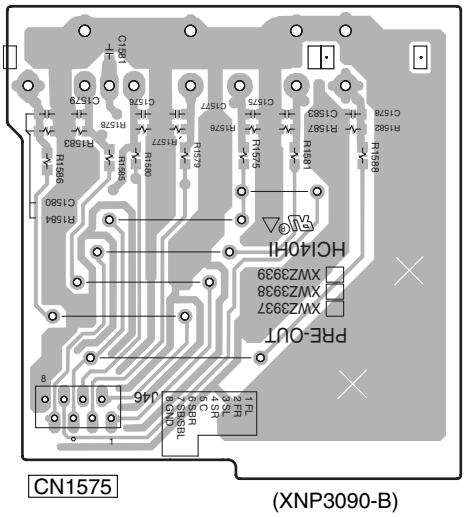
SIDE B

SIDE B

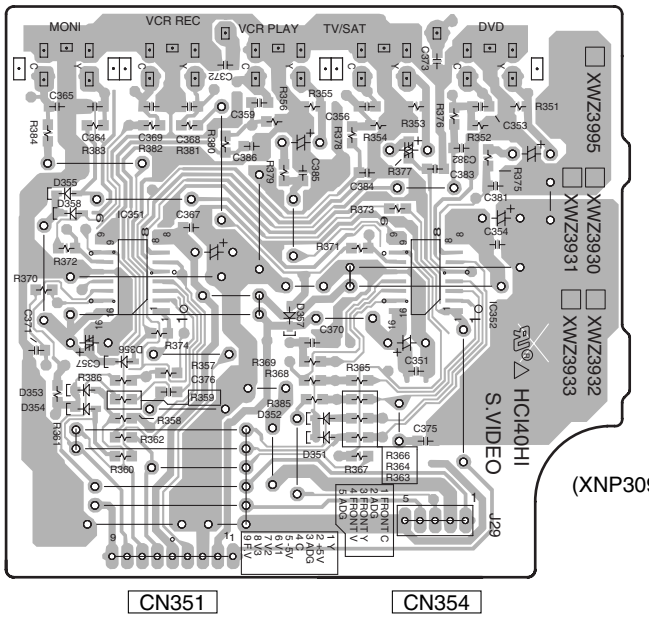
U COMPONENT ASSY

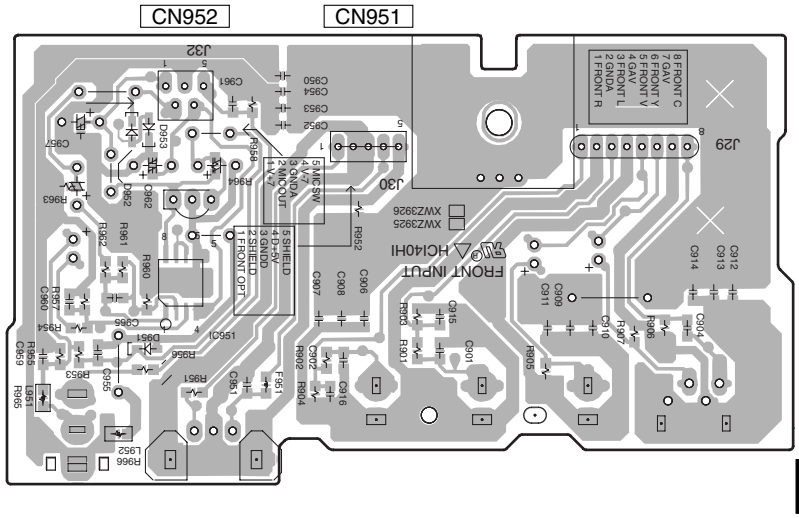


S PRE-OUT ASSY



L S. VIDEO ASSY





V FRONT INPUT ASSY

L S U V

L S U V

5 6 7 8

5. ELECTRICAL PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10[1] → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 x 10[3] → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10[1] → 5621 ..... RN1/4PC 5 6 2 1 F

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
	1..	MAIN ASSY (VSX-815)	XWK3159
	1..	MAIN ASSY (VSX-915)	XWK3162
	1..	DSP ASSY	AWX8572
	1..	VIDEO CONVERTER ASSY (VSX-915)	XWK3185
NSP	1..	AMP & PS ASSY (VSX-815)	XWK3178
NSP	1..	AMP & PS ASSY (VSX-915)	XWK3181
	2..	AMP&PRIMARY ASSY (VSX-815)	XWZ3945
	2..	AMP&PRIMARY ASSY (VSX-915)	XWZ3948
	2..	REGULATOR ASSY	XWZ3753
	2..	AMP INPUT ASSY	XWZ3956
	2..	TRANS1 ASSY	XWZ3958
	2..	TRANS2 ASSY	XWZ3959
	2..	TRANS3 ASSY	XWZ3961
	2..	BINDER ASSY	XWZ3963
	2..	HOLDER ASSY	XWZ3964

Mark	No.	Description	Part No.
NSP	1..	COMPLEX ASSY (VSX-815)	XWK3191
NSP	1..	COMPLEX ASSY (VSX-915)	XWK3186
	2..	VIDEO ASSY	XWZ3907
	2..	FRONT DISPLAY ASSY	XWZ3911
	2..	FRONT KEY ASSY	XWZ3965
	2..	5.1CH INPUT ASSY	XWZ3915
	2..	POWER SW ASSY	XWZ3919
	2..	H.P. ASSY	XWZ3924
	2..	FRONT INPUT ASSY	XWZ3926
	2..	DIGITAL IN ASSY	XWZ3999
	2..	S. VIDEO ASSY (VSX-815)	XWZ3932
	2..	S. VIDEO ASSY (VSX-915)	XWZ3995
	2..	COMPONENT ASSY	XWZ3935
	2..	TRANS4 ASSY	XWZ3936
	2..	PRE-OUT ASSY	XWZ3938
	2..	B TO B ASSY (VSX-815)	XWZ3940
	2..	B TO B ASSY (VSX-915)	XWZ3996
	2..	R. ENCODER ASSY	XWZ3922
	1..	FM/AM TUNER UNIT	AXX7172

• CONTRAST OF PCB ASSEMBLIES

AMAIN ASSY

XWK3162 and XWK3159 are constructed the same except for the following :

Mark	Symbol and Description	XWK3159	XWK3162
	R9025	Not used	RS1/16S472J

CAMP & PRIMARY ASSY

XWZ3948 and XWZ3745 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3945	XWZ3948
	C701, C702 (4700/71V)	XCH3013	Not used
	C701, C702 (5600/71V)	Not used	XCH3015

KB TO B ASSY

XWZ3996 and XWZ3940 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3940	XWZ3996
	CN392	Not used	52045-0745

LS. VIDEO ASSY

XWZ3995 and XWZ3932 are constructed the same except for the following :

Mark	Symbol and Description	XWZ3932	XWZ3995
	D355, D356	1SS355	Not used
	R373, R374	RS1/16S750J	Not used
	R383, R384	RS1/16S0R0J	Not used
	C364, C365	CKSRYB221K50	Not used
	CN355	AKP7179	Not used

• PARTS LIST FOR VSX-815-K

Mark	No.	Description	Part No.

COMPLEX ASSY

OTHERS

J41	JUMPER WIRE	D15A03-110-2651
J42	JUMPER WIRE	D15A07-075-2651
J47	JUMPER WIRE 6P	D20PYY0630E
J40	JUMPER WIRE 14P	D20PYY1407E

AMP & PS ASSY

OTHERS

Y701	AWG14 BOARD IN	ADX7286
J21	JUMPER WIRED 7P	D20PYY0715E

A MAIN ASSY

SEMICONDUCTORS

IC109	BD3812F
IC108	BD3813KS
IC101	BD3841FS
IC102	NJM2100M
IC9001	PEG094B
IC114	TC4052BFT
IC103–IC107, IC110–IC112, IC115	UPC4570G2
Q6001	2SA1037K
Q165, Q166, Q321, Q322	2SC5938A
Q341, Q342, Q361, Q362	2SC5938A
Q388, Q389, Q395, Q396	2SC5938A
Q5001	2SD1664
Q229, Q230	2SK208
Q167, Q231, Q9002-Q9005	DTA124EK
Q9008	DTA143TK
Q232, Q6002	DTC124EK
Q336	DTC124EUA
Q168, Q6007, Q6008, Q9001	DTC143EK
Q9007	DTC143TK
Q9065	UMD2N
Q9064	UN5112
D103–D108, D229, D230, D301	1SS355
D311, D312, D6001, D6002	1SS355
D9001-D9013, D9064-D9068	1SS355
D101, D102	RB501V-40
D5007	UDZS10(B)
D331, D332	UDZS6R8(B)

COILS AND FILTERS

L9001, L9002 CHIP SOLID INDUCTOR	ATL7002
L9003	LFEA2R2J
L101–L104, L111, L112, L5002 CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

C151, C152, C243, C244, C263	CCSRCH101J50
C283, C284, C313, C314	CCSRCH101J50
C317, C318, C323, C324	CCSRCH101J50
C343, C344, C363, C386, C387	CCSRCH101J50
C1031, C1041, C117, C118	CCSRCH220J50
C205–C208, C245–C248, C265	CCSRCH331J50
C267, C285–C288	CCSRCH331J50
C203, C204	CCSRCH471J50
C366	CEANP4R7M50
C121–C128, C131–C142	CEAT100M50
C167, C168, C209, C210	CEAT100M50
C213, C214, C249, C250	CEAT100M50
C269, C270, C289, C290	CEAT100M50
C301–C306, C321, C322	CEAT100M50
C341, C342, C361, C362	CEAT100M50
C380, C381, C384, C385	CEAT100M50
C5007	CEAT101M16
C169	CEAT221M6R3
C201, C202, C241, C242	CEAT2R2M50
C261, C262, C281, C282, C9005	CEAT2R2M50
C9007	CEAT331M6R3
C325, C326, C345, C346, C365	CEAT470M25
C388, C389	CEAT470M25
C155, C156	CEAT470M50
C333, C334	CEAT471M10
C9013	CEAT471M6R3
C165, C166, C370	CEAT4R7M50
C170	CKSQYB104K16
C320, C392, C5001, C9015, C9016	CKSRYB102K50
C115, C116, C153, C154, C171	CKSRYB103K50
C179, C180, C199, C215–C218	CKSRYB103K50
C251, C252, C266, C271, C272	CKSRYB103K50
C291, C292, C315, C316, C319	CKSRYB103K50
C327–C330, C347, C348	CKSRYB103K50
C367, C368, C390, C393	CKSRYB103K50
C400, C401, C5002, C9004, C9008	CKSRYB103K50
C9017	CKSRYB103K50
C219, C220, C309–C312, C9018	CKSRYB104K16
C5003, C9006	CKSRYB105K10
C264	CKSRYB223K25
C257, C258, C277, C278	CKSRYB472K50
C297, C298, C307, C308, C364	CKSRYB472K50
C9011, C9014	CKSRYB473K16
C268	CKSRYB562K50
C391	CKSRYF104Z16
C9003 (1F/5.5V)	PCH1132

Mark	No.	Description	Part No.
		RESISTORS	
⚠	R311, R312		RS1LMF101J
	Other Resistors		RS1/16S###J
		OTHERS	
	CN105	8P CONNECTOR	52044-0845
	CN103	11P CONNECTOR	52044-1145
	CN104	13P CONNECTOR	52044-1345
	CN108	5P CONNECTOR	52045-0545
	CN102	10P CONNECTOR	52045-1045
	CN112	15P CONNECTOR	52045-1545
	CN101	17P CONNECTOR	52045-1745
	CN106	21P CONNECTOR	52045-2145
	CN107	CONNECTOR POST	B3B-PH-K
	CN109, CN111	20P SOCKET	KP200TA20L
	101, 102, 105	PCB BINDER	VEF1040
	JA101–JA104	PIN JACK(4P)	XKB3017
	X9001	CERAMIC RESONATOR (15.7 MHz)	XSS3004

B DSP ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	IC601		AK4114VQ
	IC701		AK4628VQE
	IC801		DSPC56371AF180
⚠	IC902		LM1117DT-ADJ
⚠	IC901		NJM2391DL1-33
	IC851		PDC121A8
	IC501		TC74HCU04AF
	IC952		TC74VHCT244AFTS1
	IC871		TC7WH125FU
	IC802		TC7WU04FU
	Q801		UN5212
	D702		DAN202K
	D701		DAP202K
	D901, D902		UDZS5R6(B)
		COILS AND FILTERS	
	L802, L803		ATL7002
	L901, L902	CHIP SOLID INDUCTOR	ATL7002
	L501–L503, L601, L602, L605		QTL1013
	L701, L702, L801, L804, L851		QTL1013
	L871, L952	CHIP SOLID INDUCTOR	QTL1013
		CAPACITORS	
	C705		CCSRCH101J50
	C612, C613		CCSRCH120J50
	C505, C506		CCSRCH470J50
	C511, C605, C608, C620, C702		CCSRCH471J50
	C707–C714, C717, C801, C803		CCSRCH471J50
	C805, C807, C809, C814, C818		CCSRCH471J50
	C821, C823, C826, C828, C830		CCSRCH471J50
	C832, C851, C871, C916, C919		CCSRCH471J50
	C954		CCSRCH471J50
	C816, C817		CCSRCH8R0D50
	C956		CEVW100M16
	C513, C703, C715, C834, C835		CEVW101M16
	C908, C909		CEVW101M16
	C607, C618, C718		CEVW470M6R3
	C617		CKSRYB102K50
	C503, C504, C701, C820, C825		CKSRYB103K50
	C917		CKSRYB103K50
	C606, C609, C614, C619, C704		CKSRYB104K16
	C706, C716, C720, C802, C804		CKSRYB104K16
	C806, C808, C810, C815, C819		CKSRYB104K16
	C822, C824, C827, C829, C831		CKSRYB104K16
	C833, C852, C872, C907, C918		CKSRYB104K16
	C955		CKSRYB104K16
	C512		CKSRYB105K6R3
	C621		CKSRYB474K10
		RESISTORS	
	R802		RAB4C101J
	R962, R970		RAB4C104J
	R628		RS1/16S1802F
	Other Resistors		RS1/16S###J
		OTHERS	
	JA501	2P PIN JACK	AKB7131
	CN601	10P CONNECTOR	VKN1414
	CN902	13P SOCKET	XKP3077
	CN952	15P SOCKET	XKP3078
	CN701	19P SOCKET	XKP3080
	X601	CRYSTAL RESONATOR (12.288 MHz)	ASS7046
	X801	CRYSTAL RESONATOR (20 MHz)	VSS1171

C AMP & PRIMARY ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
⚠	IC610	PROTECTOR(1A)	AEK7009
⚠	IC604–IC609	PROTECTOR(10A)	AEK7022
⚠	IC701, IC702	IC PROTECTOR	ICP-N10
⚠	IC51		NJM78M56FA
⚠	IC601, IC602		STK412-230B
⚠	IC603		STK413-230B
	Q703, Q721		2SA1145
⚠	Q702		2SA2005
	Q696, Q697		2SC1740S
	Q704, Q722		2SC1845
	Q505, Q605, Q606, Q633		2SC2240
	Q655, Q656, Q683		2SC2240
⚠	Q701		2SC5511
	Q501, Q503, Q601–Q604		2SC5974A
	Q631, Q632, Q651–Q654		2SC5974A
	Q681, Q682		2SC5974A
	Q51		DTC143ES
	D501, D503, D56, D601, D603		1SS133
	D606, D608, D631, D632		1SS133
	D651–D654, D683, D684, D752		1SS133
	D754, D758		1SS133
⚠	D701, D702		D5SBA20(B)
	D602, D604, D647, D648		MTZJ15A
	D681, D682		MTZJ15A
	D711		MTZJ22D
	D58		MTZJ5.1B
	D712		MTZJ6R8(B)
⚠	D51–D55, D721–D724		S5688
		COILS AND FILTERS	
	L501, L751–L754, L761, L762	COIL	ATH1004
⚠	L51	LINE FILTER	XTF3004

Mark	No.	Description	Part No.
		SWITCHES AND RELAYS	
		RY501, RY751–RY753 RELAY	XSR3009
⚠		RY51 RELAY	XSR3010
		CAPACITORS	
		C707, C708 (0.01/AC250V)	ACG1005
		C507, C511, C513, C607, C608	CCPUSL470J50
		C611–C614, C634, C636, C637	CCPUSL470J50
		C657, C658, C661–C664, C684	CCPUSL470J50
		C686, C687	CCPUSL470J50
		C515, C615, C616, C638	CEANP2R2M50
		C665, C666, C688	CEANP2R2M50
		C775, C776	CEANP470M50
		C712	CEAT101M10
		C509, C609, C610, C635	CEAT101M16
		C659, C660, C685	CEAT101M16
		C711	CEAT101M35
		C53	CEAT102M16
		C697	CEAT221M10
		C54	CEAT470M25
		C505, C605, C606, C633	CEAT4R7M50
		C655, C656, C683	CEAT4R7M50
		C705, C706	CEHAT100M2A
		C696	CKPUYB102K50
		C503, C603, C604, C632	CKPUYB331K50
		C653, C654, C682	CKPUYB331K50
		C55–C57	CKPUYF103Z25
		C517, C751, C752, C755	CQMBA104J50
		C761, C762, C771	CQMBA104J50
⚠		C51, C52 (10000pF/250V(AC))	XCG3009
		C703, C704 (3300/42V)	XCH3012
		C701, C702 (4700/71V)	XCH3013
		RESISTORS	
⚠		R515, R617, R622, R639	ACN7094
⚠		R667, R668, R691 (0.22/5W)	ACN7094
⚠		R51 (2.2M/ 1/2W)	RCN1080
⚠		R52	RD1/2PM270J
⚠		R517, R615, R620, R638	RD1/4PU331J
⚠		R665, R666, R690	RD1/4PU331J
⚠		R525, R751, R752, R755	RD1/4PUF101J
⚠		R761, R762, R772	RD1/4PUF101J
⚠		R709, R710	RS1LMF272J
⚠		R527, R753, R754, R756	RS1LMF4R7J
⚠		R763, R764, R771	RS1LMF4R7J
⚠		R711	RS2LMF242J
		Other Resistors	RD1/4PU###J
		OTHERS	
		CN604 8P CONNECTOR	52045-0845
		CN53 23P CONNECTOR	52045-2345
		CN702 6P JUMPER CONNECTOR	52147-0610
⚠		51 AC SOCKET 1-P	AKP1060
		H51, H52, H701, H702 FUSE CLIP	AKR7001
⚠		T51 STANDBY TRANSFORMER	ATT7043
		CN601 20P PLUG	KM200TA20
⚠		CN51 AC CODE SOCKET	RKP1751
		601 PCB BINDER	VEF1040
		KN51, KN601 EARTH METAL FITTING	VNF1084
		CN751 SP TERMINAL 8-P(V0)	XKE3030
		CN752 SP TERMINAL 6-P(V0)	XKE3032

Mark	No.	Description	Part No.
		701 7P CABLE HOLDER	XKP3047

D TRANS2 ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
⚠		IC853 PROTECTOR (4A)	AEK7018
⚠		IC851, IC852 PROTECTOR(5A)	AEK7019
		OTHERS	
		851 7P CABLE HOLDER	XKP3047

E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
⚠		IC803, IC804	NJM78M05FA
⚠		IC801, IC805	NJM78M12FA
⚠		IC806	NJM78M56FA
⚠		IC802	NJM79M12FA
		Q801, Q803, Q805	DTA124ES
		Q802, Q804, Q806	DTC114ES
		D809–D811	MTZJ6.2B
⚠		D801–D804	S5688G
		CAPACITORS	
		C811, C815	CEAT101M10
		C813	CEAT101M16
		C801, C802	CEAT222M25
		C809	CEAT472M16
		C808	CEHAT101M10
		C805, C806	CEHAT101M16
		C803, C804, C807, C810, C812	CKPUYF103Z25
		C814	CKPUYF103Z25
		RESISTORS	
⚠		R801	RS3LMF331J
		OTHERS	
		CN808 15P CONNECTOR	52045-1545
		CN801 23P CONNECTOR	52045-2345
		CN802, CN804 20P PLUG	KM200TA20
		CN803 7P PLUG	KM200TA7
		CN805 13P PLUG	XKP3066
		CN807 15P PLUG	XKP3067
		CN806 19P PLUG	XKP3069

G AMP INPUT ASSY

		SEMICONDUCTORS	
		IC251	NJM4558D-D
		Q257	2SA933S
		Q251, Q256	2SC5974A
		Q252	2SD1858X
		Q254	DTA124ES
		Q253, Q255	DTC124ES
		D251, D252	1SS133
		D253	MTZJ27D
		D254	MTZJ5.1B

Mark	No.	Description	Part No.
		CAPACITORS	
	C251		CEANP470M25
	C254		CEAT101M25
A	C252, C253		CKPUYF103Z25
		RESISTORS	
	All Resistors		RD1/4PU###J
		OTHERS	
	CN251	3P CONNECTOR	52044-0345
	CN254	21P CONNECTOR	52044-2145
	CN253	20P SOCKET	KP200TA20L
	CN252	3PIN CONNECTOR	S3B-EH

H TRANS1 ASSY

TRANS1 ASSY has no service part.

I VIDEO ASSY

		SEMICONDUCTORS	
	IC301		NJM2595M
	Q302		2SA1515
	Q301		2SC3377
	Q303		2SC5938A
	D301, D302, D305, D306		1SS355
C			
	D307		UDZS5R1(B)
	D303, D304		UDZS6R2(B)
		COILS AND FILTERS	
	L301–L306	CHIP SOLID INDUCTOR	QTL1013
		CAPACITORS	
	C347		CCSRCH470J50
	C307–C310, C312, C314, C338		CEAT470M25
	C1360, C302, C379		CKSRYB103K50
	C339, C340		CKSRYB104K25
	C304–C306		CKSRYB221K50
D			
	C333		CKSRYB331K50
	C311, C313		CKSRYB473K25
		RESISTORS	
	⚠ R313, R316		RS3LMF390J
	Other Resistors		RS1/16S###J
		OTHERS	
	CN305	5P CONNECTOR	52044-0545
	CN303	13P CONNECTOR	52044-1345
	JA305	PIN JACK(4P)YELLOW	AKB7100
E	JA352	CONNECTOR	CKS4124
	CN302	7P SOCKET	KP200TA7L
	CN301	9P SOCKET	KP200TA9L
	390	PCB BINDER	VEF1040
	CN306	2P PIN JACK	XKB3041
	JA351	MINI JACK(4P) /W SW	XKN3015

J 5.1CH ASSY

		CAPACITORS	
	C342–C345		CCSRCH101J50
F	C321, C324, C331, C332		CEAT4R7M50
	C1364		CKSRYB102K50
	C316		CKSRYB103K50
	C317, C318, C325, C326		CKSRYB221K50

Mark	No.	Description	Part No.
		RESISTORS	
	All Resistors		RS1/16S###J
		OTHERS	
	CN307	8P CONNECTOR	52044-0845
	CN309	PIN JACK(4P)	XKB3035

K B TO B ASSY

		OTHERS	
	CN390, CN391	9P PLUG	KM200TA9

L S. VIDEO ASSY

		SEMICONDUCTORS	
	IC351, IC352		NJM2595M
	D351–D358		1SS355
		CAPACITORS	
	C375, C376, C381–C386		CCSRCH470J50
	C352, C355, C358, C361–C363		CEAT470M25
	C366		CEAT470M25
	C372, C373		CKSRYB103K50
	C351, C353, C354, C356, C357		CKSRYB104K25
	C359, C367		CKSRYB104K25
	C364, C365, C368–C371		CKSRYB221K50
		RESISTORS	
	R373, R374		RS1/16S750J
	R383, R384		RS1/16S0R0J
	Other Resistors		RS1/16S###J
		OTHERS	
	CN354	CONNECTOR POST	B5B-PH-K
	CN351	9P SOCKET	KP200TA9L
	CN352, CN353	SOCKET	XKB3051
	CN355	SOCKET	AKP7179

M FRONT DISPLAY ASSY

		SEMICONDUCTORS	
	IC402		GP1UM27XK0VF
	IC401		PE5487A
	Q484		2SA1037K
	Q441, Q442		DTC124EK
	D403–D405		1SS355
	D401		DAN202K
	D500		SLI-343DCW(STU)
		COILS AND FILTERS	
	L401		LFEA2R2J
		CAPACITORS	
	C482, C483		CCSRCH221J50
	C481		CCSRCH471J50
	C442		CEAL470M10
	C403		CEAT221M6R3
	C412		CEAT470M50
	C415, C454		CKSRYB102K50
	C401, C402, C410, C411, C419		CKSRYB103K50
	C441		CKSRYB103K50
	C418, C421		CKSRYB104K16
	C420 (220µF/35V)		XCH3011

Mark	No.	Description	Part No.
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	471	CABLE HOLDER (3P)	51063-0305
	404	CABLE HOLDER (7P)	51063-0705
	CN401	17P CONNECTOR	52044-1745
	CN402	9P CONNECTOR	52492-0920
	V401	FL TUBE	XAV3025
	X401	CERAMIC RESONATOR (5 MHz)	VSS1142

N R.ENCODER ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	D512		SLR-343BBT(FGHJ)
		SWITCHES AND RELAYS	
	S511		VSG1024
	S513	ROTARY ENCODER	XSX3005
	S512	ROTARY ENCODER	XSX3006
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	511	CABLE HOLDER (7P)	51063-0705

O POWER SW & KEY ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	D501		SLR-343BBT(FGHJ)
		SWITCHES AND RELAYS	
	S501–S505	SWITCH	VSG1024
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	501	CABLE HOLDER (3P)	51063-0305

P FRONTER KEY ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	D451–D458		SLI-343DCW(STU)
		SWITCHES AND RELAYS	
	S451–S470	SWITCH	VSG1024
		CAPACITORS	
	C451–C453		CKSRYB102K50
		RESISTORS	
		All Resistors	RS1/16S###J

Q TRANS4 ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
⚠	IC891, IC892	PROTECTOR(800mA)	AEK7008
⚠	D891		S1WB(A)60SD
		CAPACITORS	
	C891, C892		CEAT471M35
		OTHERS	
	CN891	3P CONNECTOR	52045-0345

R H.P. ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	Q1551, Q1552		2SC5938A
		CAPACITORS	
	C1554, C1557		CCSRCH471J50
	C1553, C1556		CKSRYB103K50
	C1555, C1558		CKSRYB104K16
	C1551, C1552		CKSRYB223K50
		RESISTORS	
⚠	R1553, R1554		RS1LMF151J
⚠	R1551, R1552		RS2LMF331J
		Other Resistors	RS1/16S###J
		OTHERS	
	1551	6P CABLE HOLDER	51048-0600
	JA1551	HEADPHONE JACK	RKB1014
	KN1551	EARTH METAL FITTING	VNF1084

S PRE-OUT ASSY

Mark	No.	Description	Part No.
		CAPACITORS	
	C1581		CKSRYB103K50
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	CN1575	8P CONNECTOR	52045-0845
	CN1576	PIN JACK 1-P	AKB7042
	1575	PIN JACK(6P)	XKB3033

T DIGITAL INPUT ASSY

Mark	No.	Description	Part No.
		COILS AND FILTERS	
	F1901	CHIP BEAD	DTF1067
		CAPACITORS	
	C1907, C1909		CCSRCH101J50
	C1904		CEAL101M10
	C1908		CKSRYB102K50
	C1903, C1906		CKSRYB103K50
	C1900, C1901, C1905		CKSRYB104K25
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	CN1902	CONNECTOR POST	B5B-PH-K
	JA1900, JA1901	OPT. LINK IN	GP1FAV51RKBF
	100	PCB BINDER	VEF1040
	CN1901	10P CONNECTOR	VKN1186
	KN1901	WRAPPING TERMINAL	VNF1084

U COMPONENT ASSY

SEMICONDUCTORS

Mark No.	Description	Part No.
IC551		NJM2586AM
D551, D552		1SS355
D553		DAN202K

CAPACITORS

C551, C552	CEAT101M10
C567, C568	CKSRYB103K50
C553, C554	CKSRYB473K50

RESISTORS

All Resistors	RS1/16S###J

OTHERS

CN551 5P CONNECTOR	52045-0545
JA551, JA552 6P RCA PINJACK	XKB3025

V FRONT INPUT ASSY

SEMICONDUCTORS

IC951	UPC4570G2
D951–D953	UDZS5R1(B)

COILS AND FILTERS

F951 CHIP BEAD	DTF1067

CAPACITORS

C901, C902, C915, C916, C960	CCSRCH101J50
C965	CCSRCH330J50
C952, C959	CCSRCH471J50
C903, C905	CEAL470M25
C956, C958, C963, C966, C967	CEAT100M50
C908, C911, C914, C953, C957	CKSRYB103K50
C962	CKSRYB103K50
C904, C906, C909, C912	CKSRYB104K25
C950, C951, C954	CKSRYB104K25
C907, C910, C913	CKSRYB471K50

RESISTORS

All Resistors	RS1/16S###J

OTHERS

CN952 CONNECTOR 5P	52045-0545
CN951 CONNECTOR POST	B5B-PH-K
CN901 CONNECTOR	B8B-PH-K
JA951 OPTICAL IN MOD.	GP1FM513RZ
JA952 JACK	RKN1004
KN951 WRAPPING TERMINAL	VNF1084
JA902 PIN JACK(4P)	XKX3003

W VIDEO CONVERTER ASSY

SEMICONDUCTORS

IC1104	LA7213
IC1102, IC1103	NJM2243M
IC1101	TK15420M
Q1101	UN5212
D1101, D1102	1SS355

COILS AND FILTERS

L1101 3 COMBINATION FILTER	XTF3005
L1102 2 COMBINATION FILTER	XTF3006

CAPACITORS

C1117, C1118	CCSRCH181J50
C1103, C1104, C1107, C1119, C1121	CEAT101M16
C1126	CEAT101M16
C1111, C1112	CEAT101M25
C1115	CEAT102M10
C1120	CEAT3R3M50
C1108, C1113, C1114, C1116, C1125	CKSRYB104K25
C1127	CKSRYB104K25
C1101, C1102, C1109, C1110	CKSRYB473K25

RESISTORS

All Resistors	RS1/16S###J

OTHERS

CN1101 5P CONNECTOR	52045-0745
CN1102 SOCKET	AKP7045
KN1101 SCREW PLATE	VNE1948

X FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service part.

6. ADJUSTMENT

There is no information to be shown in this chapter.

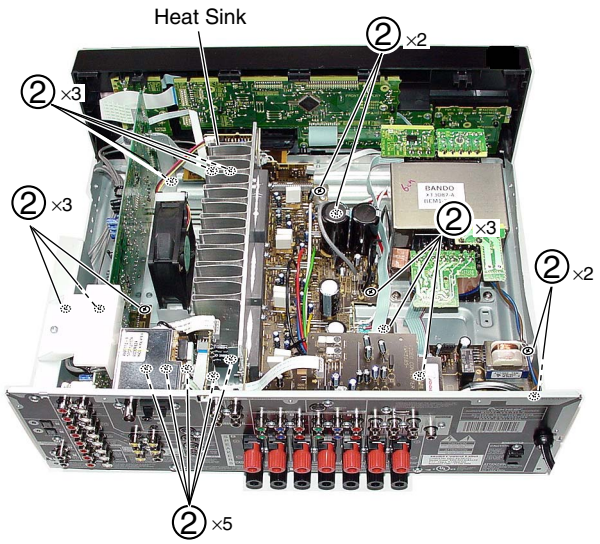
7. GENERAL INFORMATION

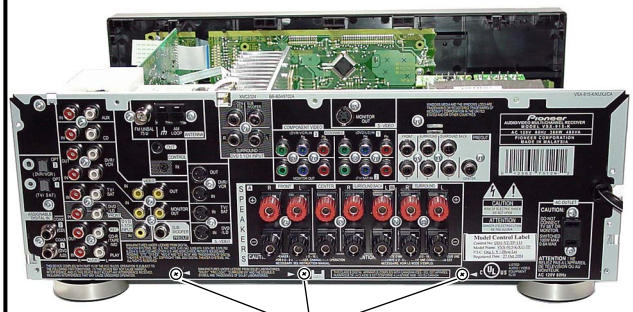
7.1 DIAGNOSIS

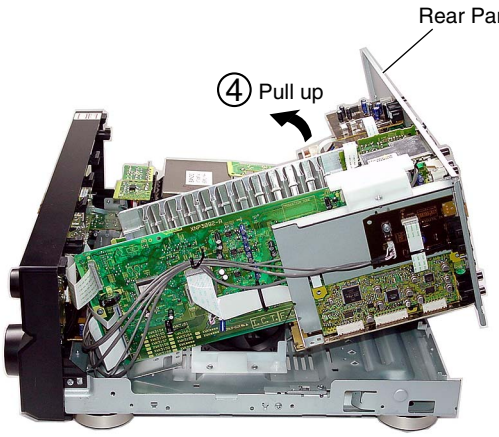
7.1.1 DISASSEMBLY

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

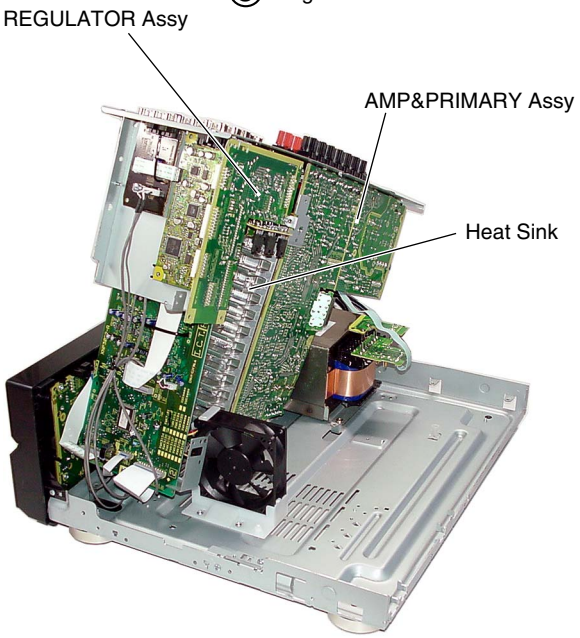
① Remove the top cover (seven screws).





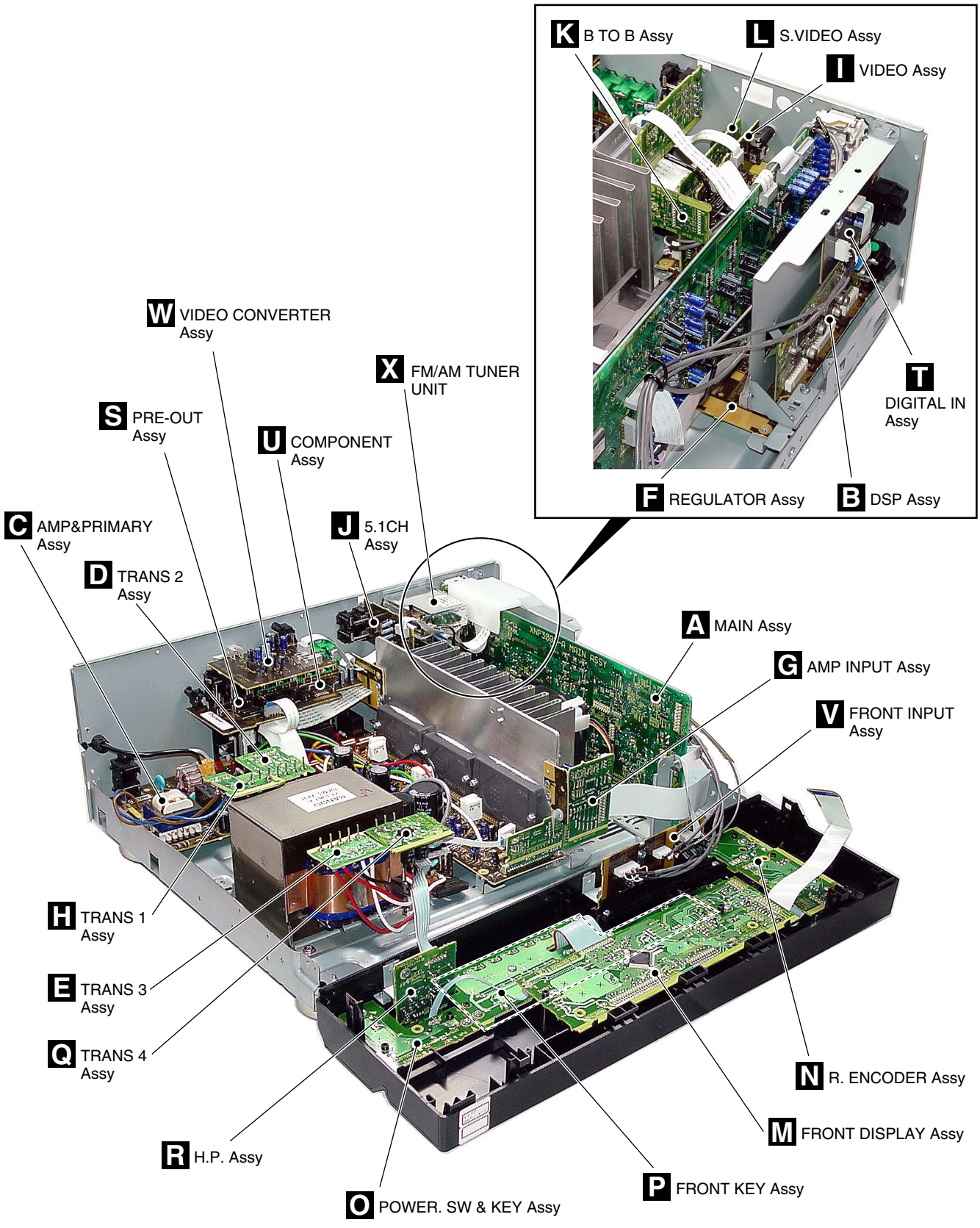


⑤ Diagnosis



Note : The unit does not operate when the screws of Speaker Terminal are taken off from Rear Panel.

Heat-sink caution in the disassembling : Because Heat-sink becomes hot, please pay attention.



NOTE : This photograph is VSX-915-K.

7.2 PARTS
7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

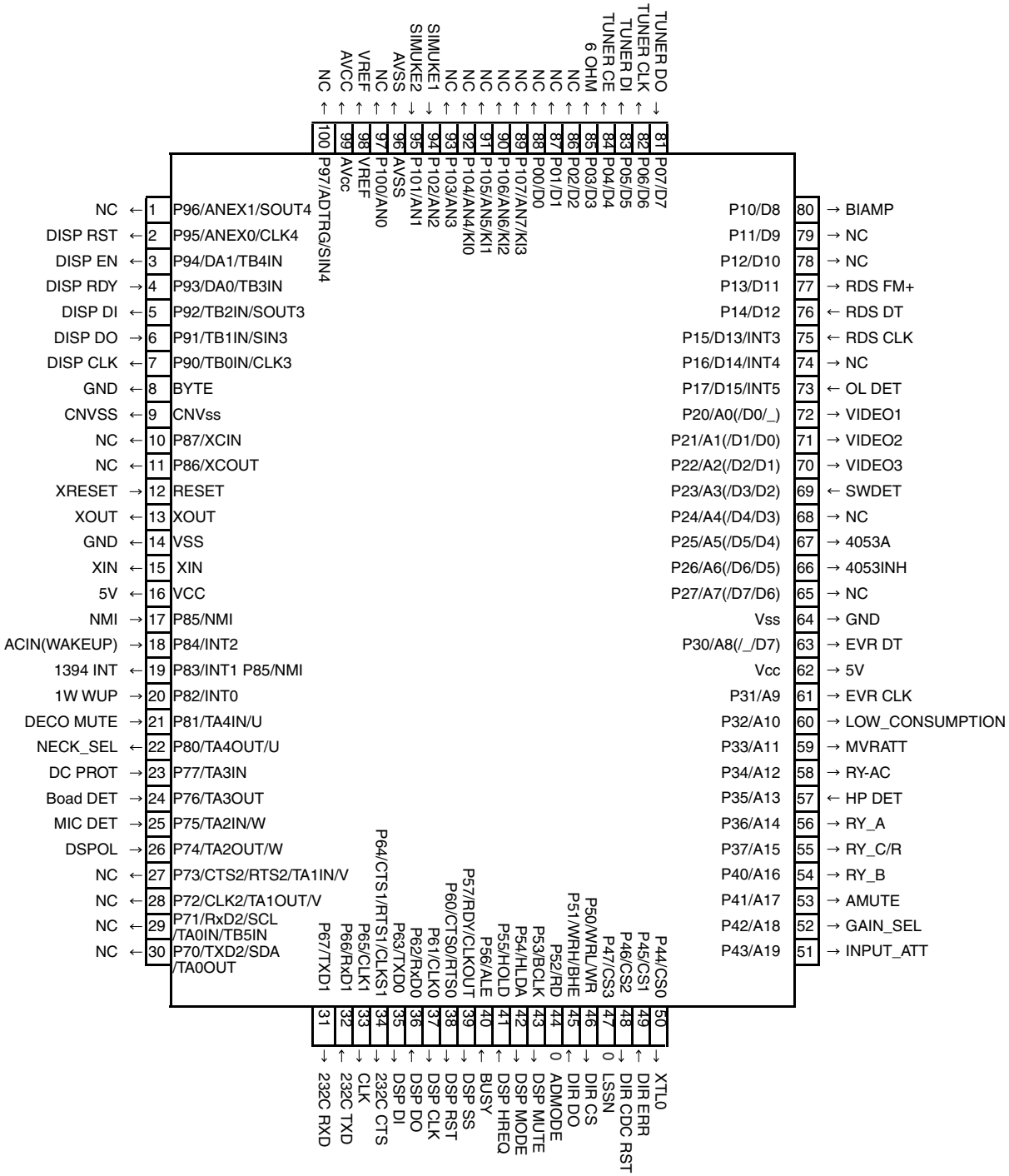
• List of IC

PEG094B, PE5487A

■ PEG094B (MAIN ASSY : IC9001)

• System Control MCU

■ Pin Arrangement (Top View)



• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	P96/ANEX1/SOUT4	NC	I/O	
2	P95/ANEX0/CLK4	DISP RST	I/O	Reset signal to display u-com
3	P94/DA1/TB4IN	DISP EN	I/O	Enable signal to display u-com
4	P93/DA0/TB3IN	DISP RDY	I/O	Ready signal from display u-com
5	P92/TB2IN/SOUT3	DISP DI	I/O	Data out to display u-com
6	P91/TB1IN/SIN3	DISP DO	I/O	Data input from display u-com
7	P90/TB0IN/CLK3	DISP CLK	I/O	Clock signal to display u-com
8	BYTE	GND		
9	CNVss	CNVSS		
10	P87/XCIN	NC	I/O	
11	P86/XCOUT	NC	I/O	
12	RESET	XRESET		
13	XOUT	XOUT		
14	VSS	GND		
15	XIN	XIN		
16	VCC	5V		
17	P85/NMI	NM	I	No use
18	P84/INT2	ACIN(WAKEUP)	I/O	AC pulse input
19	P83/INT1 P85/NMI	1394 INT	I/O	No use (Standby for 1394)
20	P82/INT0	1W WUP	I/O	Wake up signal from display u-com
21	P81/TA4IN/U	DECO MUTE	I/O	1st DSP detect port
22	P80/TA4OUT/U	NECK_SEL	I/O	5.1ch, surround mode and A+B Stereo : H / Stereo : L
23	P77/TA3IN	DC PROT	I/O	AMP DC detect
24	P76/TA3OUT	Boad DET	I/O	AMP INPUT ASSY detect, H : detected
25	P75/TA2IN/W	MIC DET	I/O	MIC detect (VSX-D914 only), L : detect
26	P74/TA2OUT/W	DSP OL	I/O	ANALOG OVER LOAD detect, H : detected
27	P73/CTS2/RTS2/TA1IN/V	NC(1394 CS)	I/O	No use (Standby for 1394)
28	P72/CLK2/TA1OUT/V	NC(1394 CK)	I/O	No use (Standby for 1394)
29	P71/RxD2/SCL/TA0IN/TB5IN	NC(1394 DO)	I/O	No use (Standby for 1394)
30	P70/TXD2/SDA/TA0OUT	NC(1394 DI)	I/O	No use (Standby for 1394)
31	P67/TXD1	232C RXD	I/O	For rewriting 232C (Data output)
32	P66/RxD1	232C TXD	I/O	For rewriting 232C (Data input)
33	P65/CLK1	CLK	I/O	It is necessary when writing for JIG
34	P64/CTS1/RTS1/CLKS1	232C CTS	I/O	For rewriting 232C (Admit communication)
35	P63/TXD0	DSP DI	I/O	Data output signal for communication with DSP and DIR
36	P62/RxD0	DSP DO	I/O	Data input signal for communication with DSP
37	P61/CLK0	DSP CLK	I/O	Clock signal for communication with DSP and DIR
38	P60/CTS0/RTS0	DSP RST	I/O	Reset signal for DSP
39	P57/RDY/CLKOUT	DSP SS	I/O	Srobe select signal to DSP
40	P56/ALE	BUSY	I/O	Use it in MCACC
41	P55/HOLD	DSP HREQ	I/O	DSP error detect signal
42	P54/HLDA	DSP MODE	I/O	Mode select of DSP (ROM/RAM)
43	P53/BCLK	DSP MUTE	I/O	DSP ASSY mute
44	P52/RD	ADMODE	0	DSP ASSY
45	P51/WRH/BHE	DIR DO	I/O	Data input signal for communication with DIR/DAC
46	P50/WRL/WR	DIR CS	I/O	Chip select signal for communication with DIR/DAC
47	P47/CS3	LSSN	0	DSP ASSY
48	P46/CS2	DIR CDC RST	I/O	Reset signal for DIR CODEC
49	P45/CS1	DIR ERR	I/O	lock/unlock signal
50	P44/CS0	XTL0	I/O	DIR X'tal change

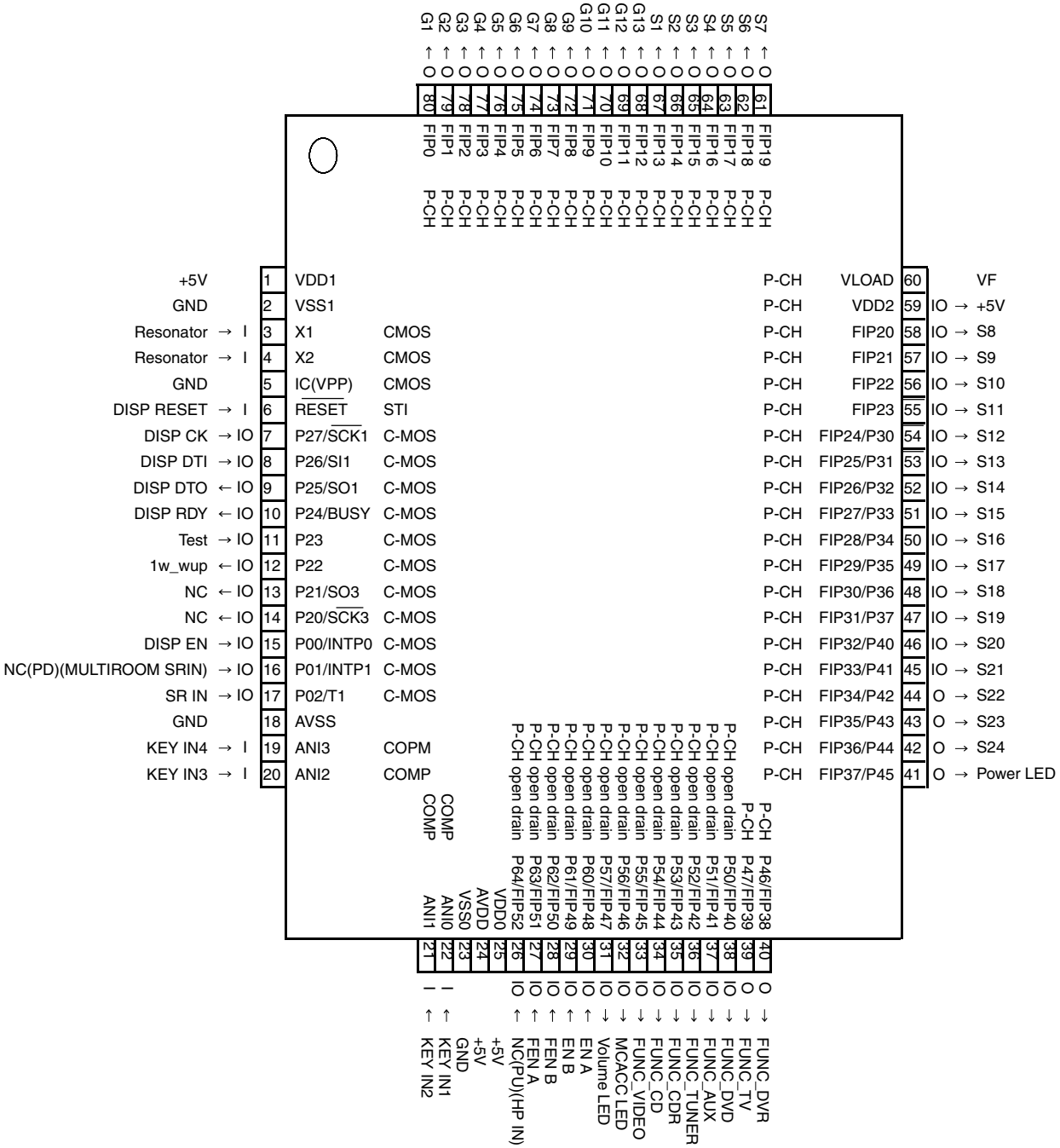
• Pin Function

No.	Port	Pin Name	I/O	Pin Function
51	P43/A19	INPUT_ATT	I/O	Analog input ATT(H : ATT ON)
52	P42/A18	GAIN_SEL	I/O	Gain select (5.1ch and Stereo of analog input : H)
53	P41/A17	AMUTE	I/O	System mute
54	P40/A16	RY_B	I/O	Speaker B relay ON/OFF
55	P37/A15	RY_C/R	I/O	Rear/Center Speaker relay ON/OFF
56	P36/A14	RY_A	I/O	Speaker A relay ON/OFF
57	P35/A13	HP DET	I/O	HP detect, H : detected
58	P34/A12	RY-AC	I/O	AC relay ON/OFF
59	P33/A11	MVRATT	I/O	ATT control of master volume (less than -15dB : L)
60	P32/A10	LOW_CONSUMPTION	I/O	If stop mode, port L, else H
61	P31/A9	EVR CLK	I/O	Clock signal for Function and E-volume
62	Vcc	5V		
63	P30/A8(/_/D7)	EVR DT	I/O	Data signal for Function and E-volume
64	Vss	GND		
65	P27/A7(/D7/D6)	NC	I/O	
66	P26/A6(/D6/D5)	4053INH	I/O	Component terminal control
67	P25/A5(/D5/D4)	4053A	I/O	Component terminal control
68	P24/A4(/D4/D3)	NC	I/O	
69	P23/A3(/D3/D2)	SWDET	I/O	SWSP detect
70	P22/A2(/D2/D1)	VIDEO3	I/O	SWSP detect
71	P21/A1(/D1/D0)	VIDEO2	I/O	SWSP detect
72	P20/A0(/D0/_)	VIDEO1	I/O	NJM2296 control (VIDEO input select)
73	P17/D15/INT5	OL DET	I/O	Detect overload of AMP
74	P16/D14/INT4	NC	I/O	
75	P15/D13/INT3	RDS CLK	I/O	Clock input signal for RDS module
76	P14/D12 RDS	DT	I/O	Data input signal for RDS module
77	P13/D11 RDS	FM+	I/O	Power ON/OFF of RDS decoder
78	P12/D10	NC	I/O	
79	P11/D9	NC	I/O	
80	P10/D8	BIAMP	I/O	At the time of BiAMP: L and time of Normal:H
81	P07/D7	TUNER DO	I/O	Data input signal for tuner contorol
82	P06/D6	TUNER CLK	I/O	Clock signal for tuner contorol
83	P05/D5	TUNER DI	I/O	Data output signal for tuner contorol
84	P04/D4	TUNER CE	I/O	Chip select signal for tuner contorol
85	P03/D3	6 OHM	I/O	If stop mode, port L, else L/H depends on selection.
86	P02/D2	NC	I/O	
87	P01/D1	NC	I/O	
88	P00/D0	NC	I/O	
89	P107/AN7/KI3	NC	I/O	
90	P106/AN6/KI2	NC	I/O	
91	P105/AN5/KI1	NC	I/O	
92	P104/AN4/KI0	NC	I/O	
93	P103/AN3	NC	I/O	
94	P102/AN2	SIMUKE1	I/O	Input 1 to switch region
95	P101/AN1	SIMUKE2	I/O	Input 2 to switch region
96	AVSS	AVSS		Connect to VSS
97	P100/AN0	NC	I/O	
98	VREF	VREF		Connect to VCC
99	AVcc	AVCC		Connect to VCC
100	P97/ADTRG/SIN4	NC	I/O	

■ PE5487A (FRONT DISPLAY ASSY : IC401)

• **System Control MCU**

■ **Pin Arrangement (Top View)**


1 VDD1 +5V
2 VSS1 GND
3 X1 Resonator → I CMOS
4 X2 Resonator → I CMOS
5 IC(VPP) GND CMOS
6 RESET DISP RESET → I STI
7 P27/SCK1 DISP CK → IO C-MOS
8 P26/SI1 DISP DTI → IO C-MOS
9 P25/SO1 DISP DTO ← IO C-MOS
10 P24/BUSY DISP RDY ← IO C-MOS
11 P23 Test → IO C-MOS
12 P22 1w_wup ← IO C-MOS
13 P21/SO3 NC ← IO C-MOS
14 P20/SCK3 NC ← IO C-MOS
15 P00/INTP0 DISP EN → IO C-MOS
16 P01/INTP1 NC(PD)(MULTIROOM SRIN) → IO C-MOS
17 P02/T1 SR IN → IO C-MOS
18 AVSS GND
19 ANI3 KEY IN4 → I COPM
20 ANI2 KEY IN3 → I COMP
21 ANI1 KEY IN2 I ← COMP
22 ANI0 KEY IN1 I ← COMP
23 VSS0 GND
24 AVDD +5V
25 VDD0 +5V
26 P64/FIP52 NC(PU)(HP IN) IO ↑ P-CH open drain
27 P63/FIP51 FEN A IO ↑ P-CH open drain
28 P62/FIP50 FEN B IO ↑ P-CH open drain
29 P61/FIP49 EN B IO ↑ P-CH open drain
30 P60/FIP48 EN A IO ↑ P-CH open drain
31 P57/FIP47 Volume LED IO ↓ P-CH open drain
32 P56/FIP46 MCACC LED IO ↓ P-CH open drain
33 P55/FIP45 FUNC_VIDEO IO ↓ P-CH open drain
34 P54/FIP44 FUNC_CD IO ↓ P-CH open drain
35 P53/FIP43 FUNC_CDR IO ↓ P-CH open drain
36 P52/FIP42 FUNC_TUNER IO ↓ P-CH open drain
37 P51/FIP41 FUNC_AUX IO ↓ P-CH open drain
38 P50/FIP40 FUNC_DVD IO ↓ P-CH open drain
39 P47/FIP39 FUNC_TV O ↓ P-CH
40 P46/FIP38 FUNC_DVR O ↓
41 FIP37/P45 O → Power LED P-CH
42 FIP36/P44 O → S24 P-CH
43 FIP35/P43 O → S23 P-CH
44 FIP34/P42 O → S22 P-CH
45 FIP33/P41 IO → S21 P-CH
46 FIP32/P40 IO → S20 P-CH
47 FIP31/P37 IO → S19 P-CH
48 FIP30/P36 IO → S18 P-CH
49 FIP29/P35 IO → S17 P-CH
50 FIP28/P34 IO → S16 P-CH
51 FIP27/P33 IO → S15 P-CH
52 FIP26/P32 IO → S14 P-CH
53 FIP25/P31 IO → S13 P-CH
54 FIP24/P30 IO → S12 P-CH
55 FIP23 IO → S11 P-CH
56 FIP22 IO → S10 P-CH
57 FIP21 IO → S9 P-CH
58 FIP20 IO → S8 P-CH
59 VDD2 IO → +5V P-CH
60 VLOAD VF P-CH
61 FIP19 O ↑ P-CH
62 FIP18 O ↑ P-CH
63 FIP17 O ↑ P-CH
64 FIP16 O ↑ P-CH
65 FIP15 O ↑ P-CH
66 FIP14 O ↑ P-CH
67 FIP13 O ↑ P-CH
68 FIP12 O ↑ P-CH
69 FIP11 O ↑ P-CH
70 FIP10 O ↑ P-CH
71 FIP9 O ↑ P-CH
72 FIP8 O ↑ P-CH
73 FIP7 O ↑ P-CH
74 FIP6 O ↑ P-CH
75 FIP5 O ↑ P-CH
76 FIP4 O ↑ P-CH
77 FIP3 O ↑ P-CH
78 FIP2 O ↑ P-CH
79 FIP1 O ↑ P-CH
80 FIP0 O ↑ P-CH
S7 S6 S5 S4 S3 S2 S1 G13 G12 G11 G10 G9 G8 G7 G6 G5 G4 G3 G2 G1

• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	VDD1	+5V	-	positive power supply
2	VSS1	GND	-	ground potential
3	X1	Resonator	I	crystal connection for system clock oscillation
4	X2	Resonator	-	crystal connection for system clock oscillation
5	IC(VPP)	GND	-	
6	RESET	DISP RESET	I	receive reset signal from main u-com
7	P27/SCK1	DISP CK	I/O	clock signal from main u-com
8	P26/SI1	DISP DTI	I/O	datain from main u-com
9	P25/SO1	DISP DTO	I/O	data out to main u-com
10	P24/BUSY	DISP RDY	I/O	ready signal from main u-com
11	P23	Test	I/O	test mode input for checker
12	P22	1w_wup	I/O	output wakeup signal to main u-com
13	P21/SO3	NC	I/O	
14	P20/SCK3	NC	I/O	
15	P00/INTP0	DISP EN	I/O	enable signal from main u-com
16	P01/INTP1	NC	I/O	
17	P02/T1	SR IN	I/O	remote control signal input from main room
18	AVSS	GND	-	ground potential for A/D converter
19	ANI3	KEY IN4	I	
20	ANI2	KEY IN3	I	
21	ANI1	KEY IN2	I	
22	ANI0	KEY IN1	I	
23	VSS0	GND	-	ground potential for ports
24	AVDD	+5V	-	analog power voltage input to A/D converter
25	VDD0	+5V	-	positive power supply to ports
26	P64/FIP52	NC	I/O	
27	P63/FIP51	FEN A	I/O	MULTI JOG(Right)
28	P62/FIP50	FEN B	I/O	MULTI JOG(Left)
29	P61/FIP49	EN B	I/O	VOLUME JOG1(-)
30	P60/FIP48	EN A	I/O	VOLUME JOG1(+)
31	P57/FIP47	VOLUME LED	I/O	VOLUME LED Output
32	P56/FIP46	MCACC LED	I/O	MCACC LED Output
33	P55/FIP45	FUNC_VIDEO	I/O	FUNCLED Output
34	P54/FIP44	FUNC_CD	I/O	FUNCLED Output
35	P53/FIP43	FUNC_CDR	I/O	FUNCLED Output
36	P52/FIP42	FUNC_TUNER	I/O	FUNCLED Output
37	P51/FIP41	FUNC_AUX	I/O	FUNCLED Output
38	P50/FIP40	FUNC_DVD	I/O	FUNCLED Output
39	P47/FIP39	FUNC_TV	O	FUNCLED Output
40	P46/FIP38	FUNC_DVR	O	FUNCLED Output

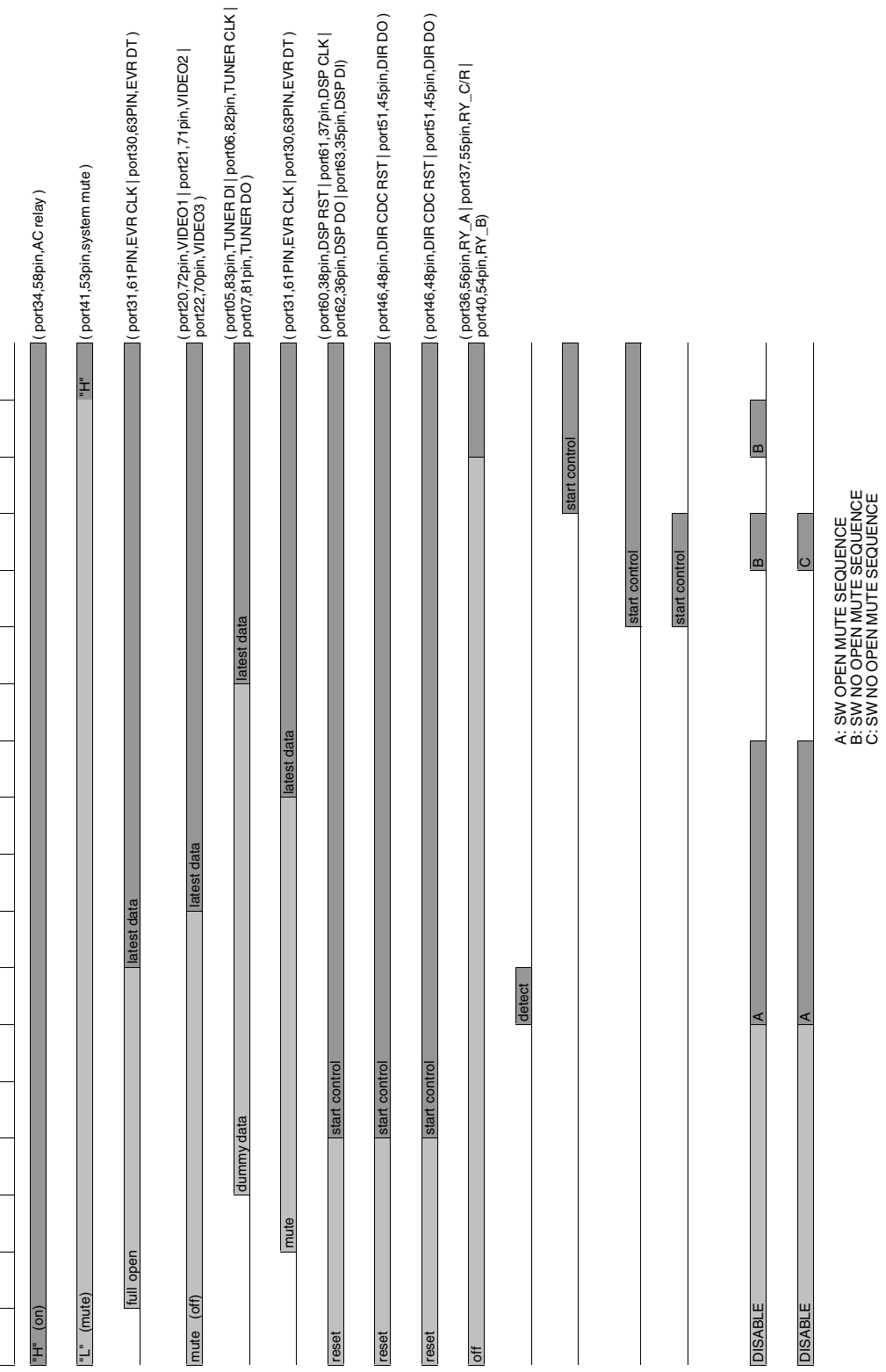
• Pin Function

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	POWER LED	O	Power On LED Output
42	FIP36/P44	S24	O	Display
42	FIP35/P43	S23	O	Display
44	FIP34/P42	S22	O	Display
45	FIP33/P41	S21	O	Display
46	FIP32/P40	S20	O	Display
47	FIP31/P37	S19	O	Display
48	FIP30/P36	S18	O	Display
49	FIP29/P35	S17	O	Display
50	FIP28/P34	S16	O	Display
51	FIP27/P33	S15	O	Display
52	FIP26/P32	S14	O	Display
53	FIP25/P31	S13	O	Display
54	FIP24/P30	S12	O	Display
55	FIP23	S11	O	Display
56	FIP22	S10	O	Display
57	FIP21	S9	O	Display
58	FIP20	S8	O	Display
59	VDD2	+5V	-	positive power supply to FIP controller.
60	VLOAD	VF	-	pull down resistor connection of FIP controller
61	FIP19	S7	O	Display
62	FIP18	S6	O	Display
63	FIP17	S5	O	Display
64	FIP16	S4	O	Display
65	FIP15	S3	O	Display
66	FIP14	S2	O	Display
67	FIP13	S1	O	Display
68	FIP12	G13	O	Display
69	FIP11	G12	O	Display
70	FIP10	G11	O	Display
71	FIP9	G10	O	Display
72	FIP8	G9	O	Display
73	FIP7	G8	O	Display
74	FIP6	G7	O	Display
75	FIP5	G6	O	Display
76	FIP4	G5	O	Display
77	FIP3	G4	O	Display
78	FIP2	G3	O	Display
79	FIP1	G2	O	Display
80	FIP0	G1	O	Display

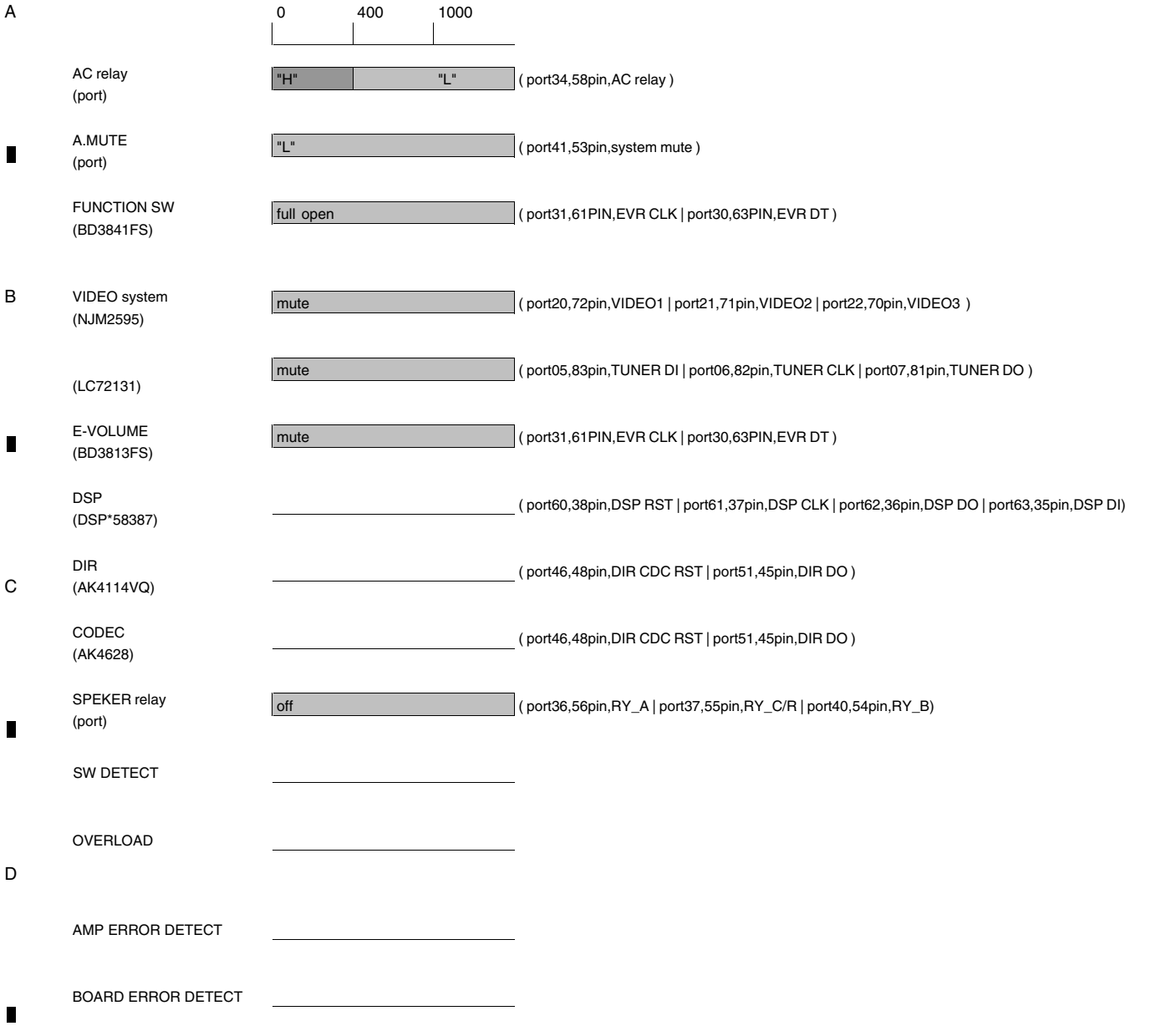
7.3 EXPLANATION

7.3.1 POWER ON AND OFF INITIAL TIMING CHART

■ POWER ON INITIAL TIMING CHART

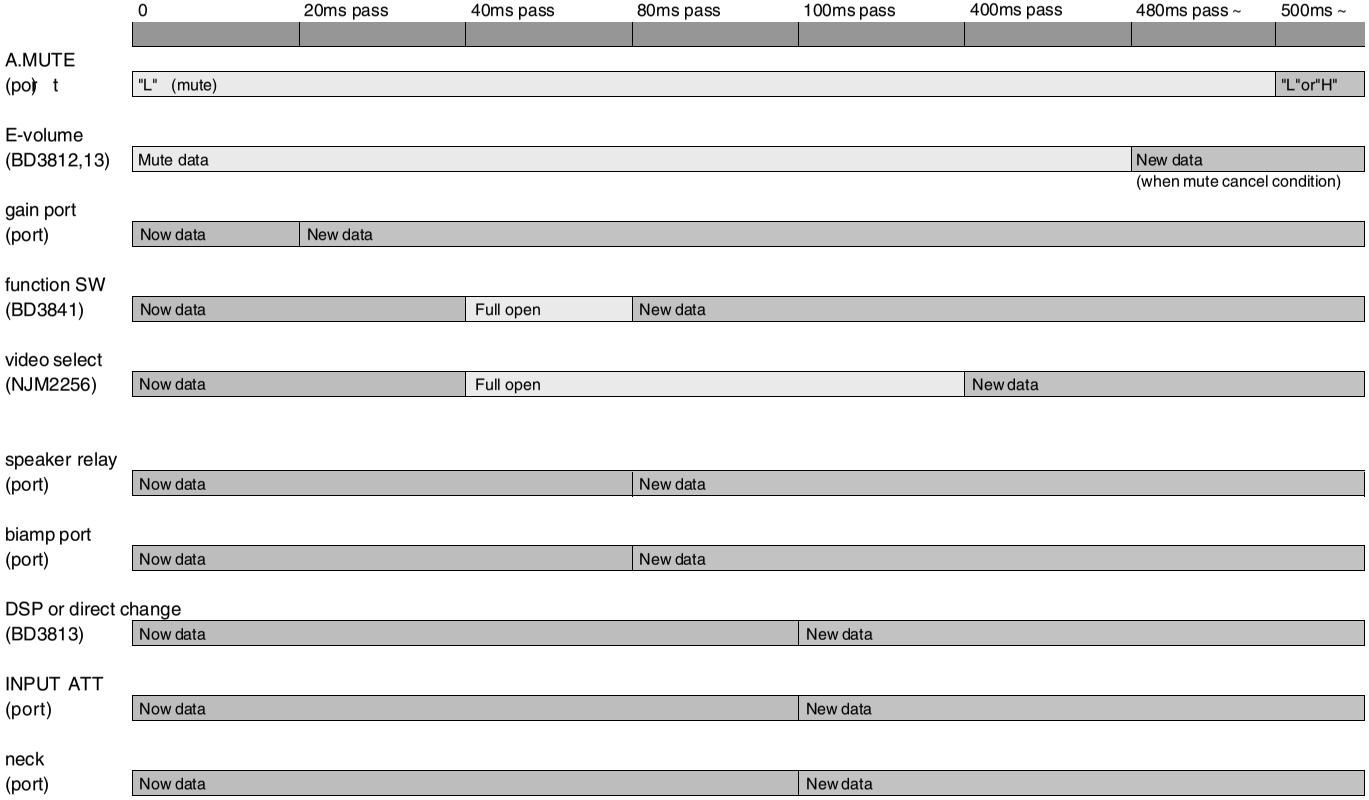


■ POWER OFF INITIAL TIMING CHART



■ IC data transmission timing chart

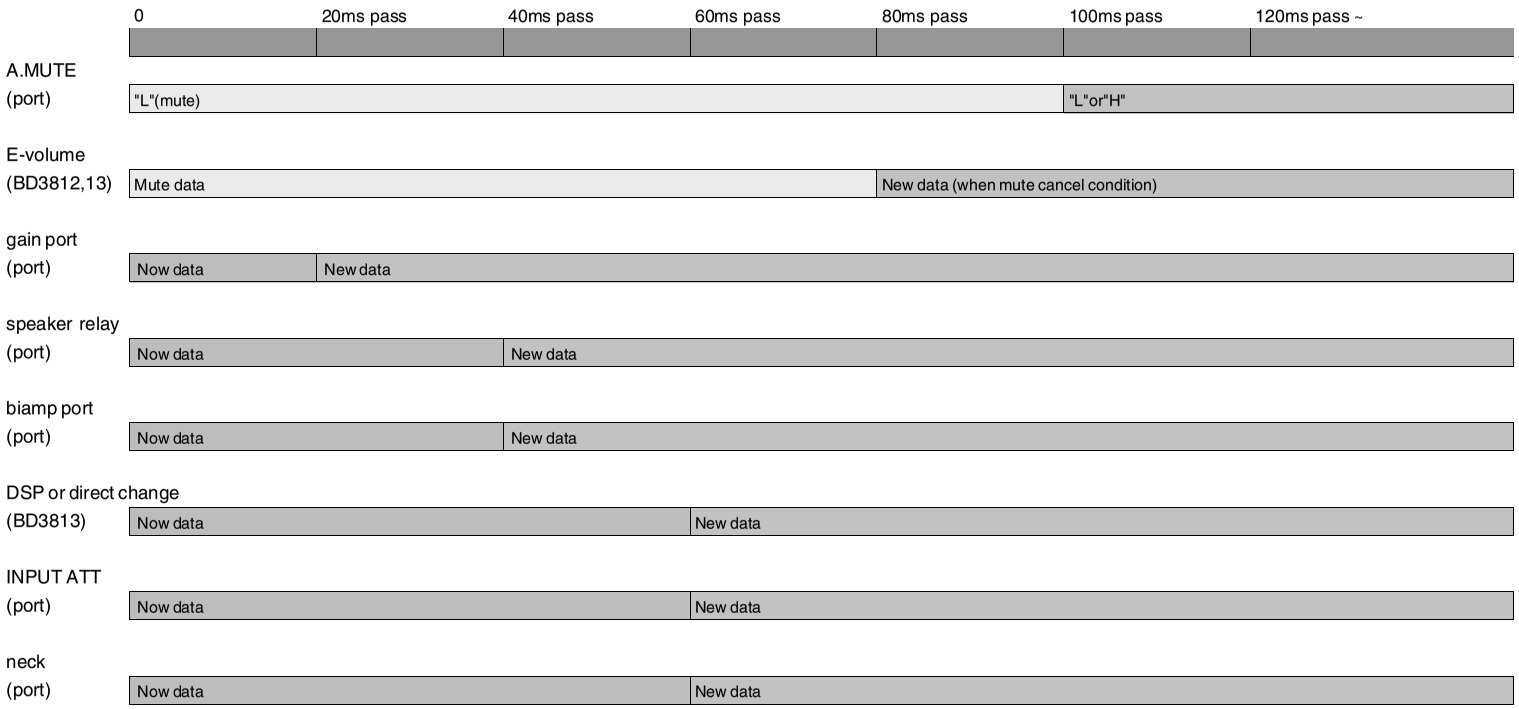
1.When function chage



condition of mute cancel (system mute & E-volume mute)

1) when tuner mute during Tuner function
2) when communicate to DSP
3) when initial processing
4) when detect trouble of AMP DC
5) when detect overload of AMP
6) when Power off
7) when muting by key input

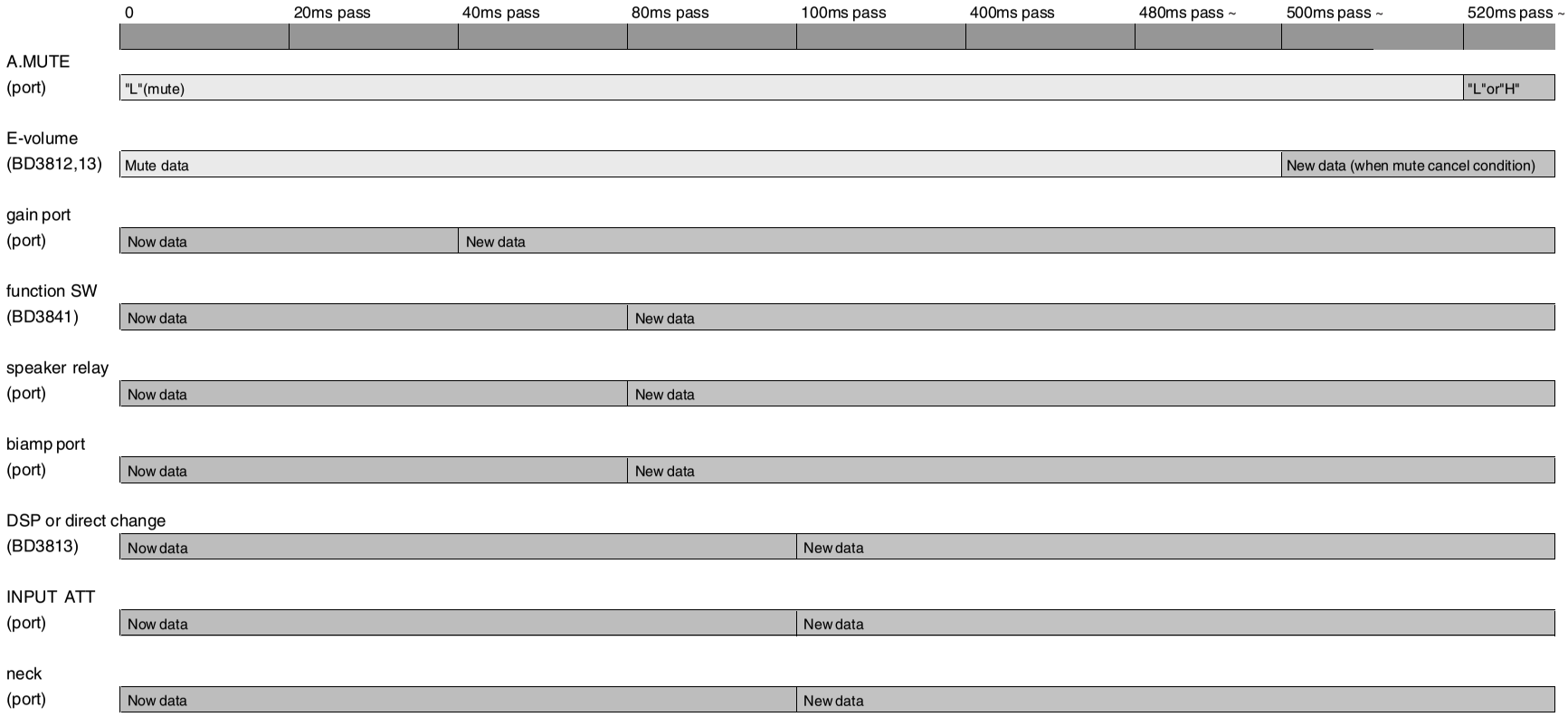
2.When except function chage



condition of mute cancel (system mute & E-volume mute)

1) when tuner mute during Tuner function
2) when communicate to DSP
3) when initial processing
4) when detect trouble of AMP DC
5) when detect overload of AMP
6) when Power off
7) when muting by key input

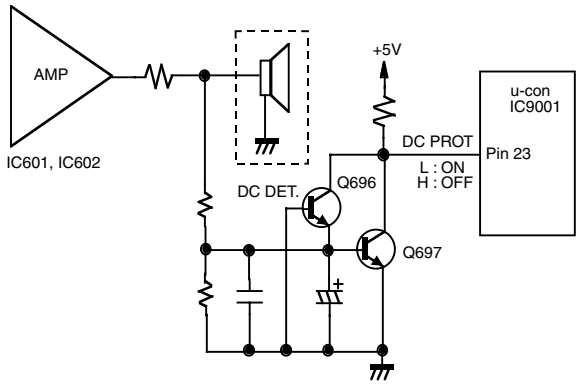
3.When except function chage(case 2)



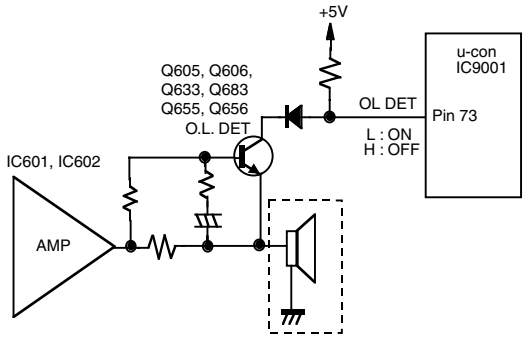
(1) When standard mode change.
(2) When listening mode change.
(3) When surround back ch chenge.
(4) When "dolby_set_with_mete" function call.

7.3.3 DETECTION CIRCUIT

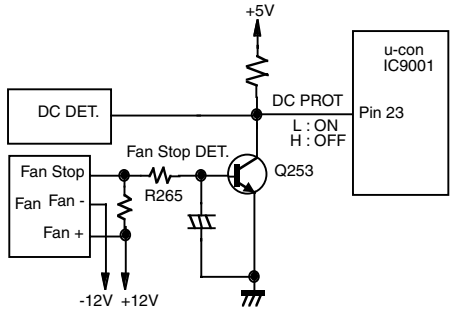
1.DC Detection Circuit Diagram:



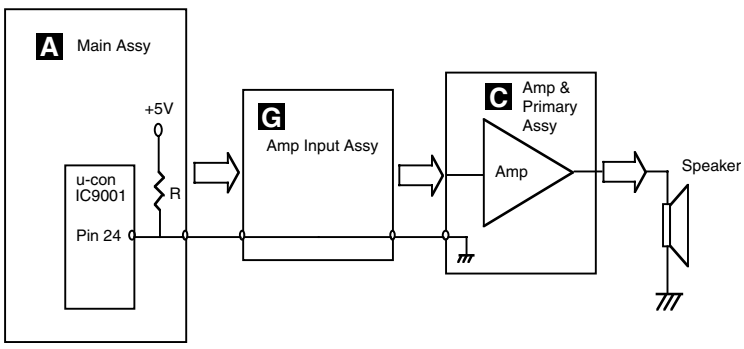
2. Overload Detection Circuit Diagram:



3. Fan Stop Prottection Circuit Diagram:



4. PCB Board Protection Circuit Diagram



7.3.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION

1. DC-abnormality detection

DC detection is only enabled 2 seconds after power-on.
If there is a fault in the power amplifier or a high-level signal lower than 5 Hz is input, the DC_DET port becomes “L”.
If the “L” is detected, the microprocessor will perform as following flow chart.

In the case of simultaneous detection with the overload protection circuit, DC-abnormality detection is performed preferentially to overload detection.

When a DC abnormality is detected, A.MUTE* is turned on, speaker relay is turned off, then "AMP_ERR" flashes on the display.

*A.MUTE : Audio mute command

↓

The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The program restarts.

↓

Power key not effective and POWER LED blinks.

However, when the following keys are pushed so that the key input of a line and the service can be carried out, power can be on. (If don't push these key, need to wait 1 min then power can be on again.)
① TESTMODE ON (A55F+A55F)
② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.
(②: When a DC abnormality is detected and the power is shut off.)

2. Overload detection

If the speaker terminals are short-circuited or low-load driving is detected, the OL_DET port becomes “L”.
If the “L” is detected, the microprocessor will perform as following flow chart.

When an overload is detected, A.MUTE* is turned on, speaker relay is turned off, then "OVERLOAD" flashes on the display.

↓

The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The power is shut off even if the unit recovers.

3. Board detection

If the board connection from Main Ass'y to Amp&Primary Ass'y is interrupted,
the BOARD_DET port becomes "H".
If the "H" is detected, the microprocessor will perform as following flow chart.

In the case of simultaneous detection with the overload protection circuit,
Board detection is performed preferentially to DC-abnormality detection and Overload detection.

When an boad error is detected, A.MUTE* is turned on,
speaker relay is turned off, then
"BOAD ERR" flashes on the display.

↓

The abnormality continues for 2 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The power is shut off even if the
unit recovers.

4. Fan stop detection operation flow in the DC abnormality detection

If the fan is forcibly stopped, the 'DC PROT' port becomes "L". Then an abnormality of fan is detected.

When an abnormality of fan is detected,
A.MUTE* is turned on, speaker relay is turned off,
the "AMP_ERR" flashes on the display.

*A.MUTE : Audio mute command

↓

The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓

The power key is disabled.

↓ Recovery

The program restarts.

However, when the following keys are pushed so that the key input of a line and the service can be carried out, power can be on.

① TESTMODE ON (A55F+A55F)
② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.
(Effective, only when power-off is carried out by DC detection)

7.3.5 AMPLIFIER FAILURE DIAGNOSIS FLOW CHART

■ **Amplifier failure diagnosis flow chart**

When DC detection is activated ("AMP_ERR" flashes on the display), failure (damage) of the power amplifier section is considered.
As DC detection and fan stop protection circuits commonly use same abnormality detection port in microprocessor, please make sure that the operation of fan motor is in normal condition before proceeding to the troubleshooting of amplifier.

Caution:
When release the lock state of power key before repair, please be careful because there is the possibility that more damages will occur when turns on the power once again!

• According to a symptom, perform the following confirmation beforehand.

1) Is the operation of fan motor in normal condition?

2) Are there any Fuses and IC protectors open?

3) After turn on the power, confirm that the supply voltage of the point that can be measured is appropriate.

4) Whether the voltage of pin3 of IC601 or IC602 is equal to (VL-0.7V). If not (eg, equal to VH), then change the corresponding power pack IC601 or IC602.

5) Furthermore, check the output DC voltage of each channel of power pack IC601 and IC602 to limit the failure channel and identify the defect power pack.

• After identify the failure channel, check that each part is not damaged (resistor, diode... etc. value / open / short)

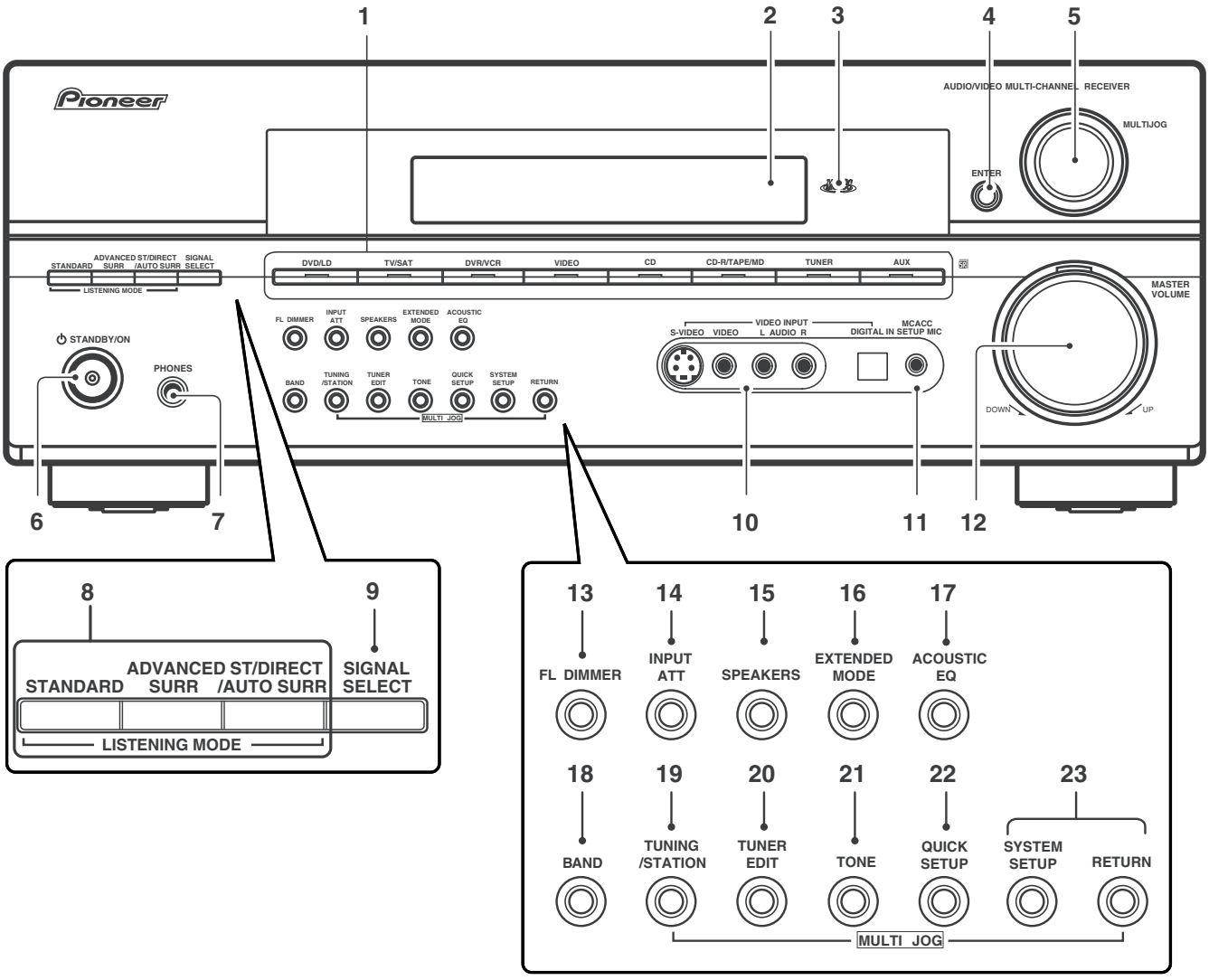
7.4 CLEANING

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

8. PANEL FACILITIES

Front panel



1 Input select buttons
Press to select an input source.

2 Character display
See Display.

3 MCACC indicator
Lights when Acoustic Calibration EQ is on (Acoustic Calibration EQ is automatically set to **ALL CH ADJUST** after the Auto MCACC Setup or EQ Auto Setup is complete).

4 ENTER

5 MULTI JOG dial
Use the **MULTI JOG** dial to select various settings and menu options.

6 ⏻ STANDBY/ON
Switches the receiver between on and standby.

7 PHONES jack
Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

8 LISTENING MODE buttons

STANDARD
Press for Standard decoding and to switch between the various Pro Logic IIx and Neo:6 options.

ADVANCED SURROUND
Use to switch between the various surround modes.

STEREO/DIRECT (AUTO SURR)
Switches between direct and stereo playback. Direct playback bypasses the tone controls and any other signal processing for the most accurate reproduction of a source. Also selects the Auto Surround mode (Auto playback).

9 SIGNAL SELECT
Use to select an input signal.

10 VIDEO INPUT
See Connecting to the front panel video terminal.

11 MCACC SETUP MIC jack
Use to connect the supplied microphone.

12 MASTER VOLUME dial

13 FL DIMMER
Dims or brightens the display.

14 INPUT ATT
Attenuates (lowers) the level of an analog input signal to prevent distortion.

15 SPEAKERS
Use to change the speaker system and to change the impedance setting.

16 EXTENDED MODE
Selects the surround back channel mode or virtual surround back mode.

17 ACOUSTIC EQ
Press to select an Acoustic Calibration EQ setting.

18 BAND
Switches between the tuner AM and FM bands.

19 TUNING / STATION buttons
Selects the frequency and station presets when using the tuner.

20 TUNER EDIT
Press to memorize and name a station for recall.

21 TONE
Press this button to access the bass and treble controls, which you can then adjust with the **MULTI JOG** dial.

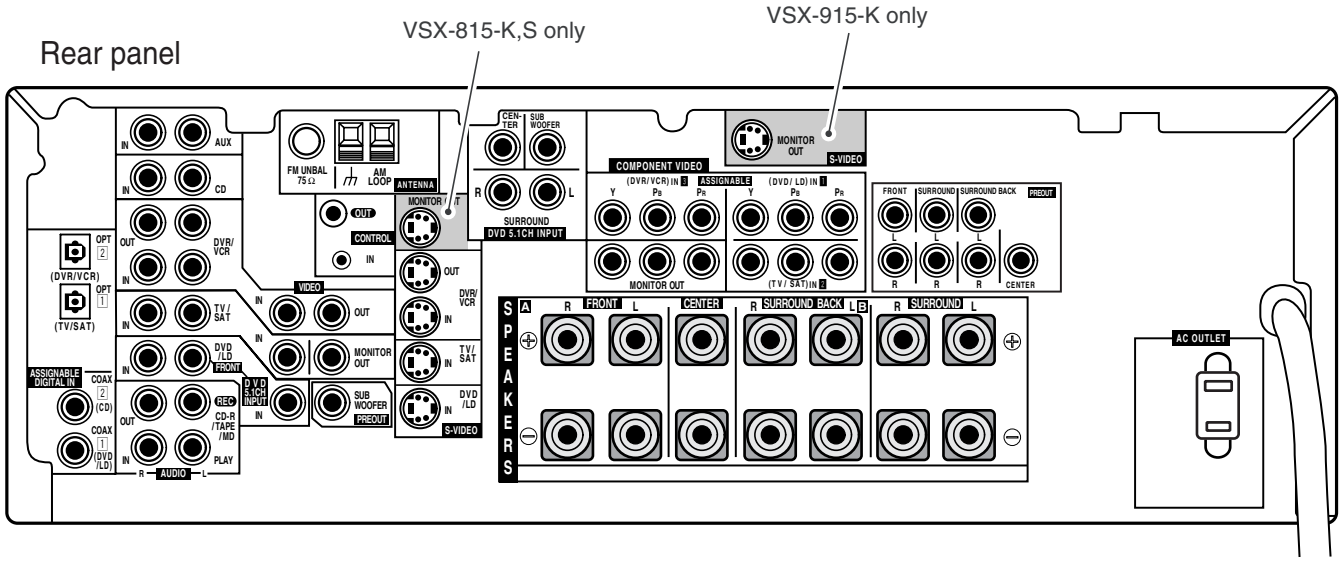
22 QUICK SETUP
See Using the Quick Setup.

23 System Setup menu controls

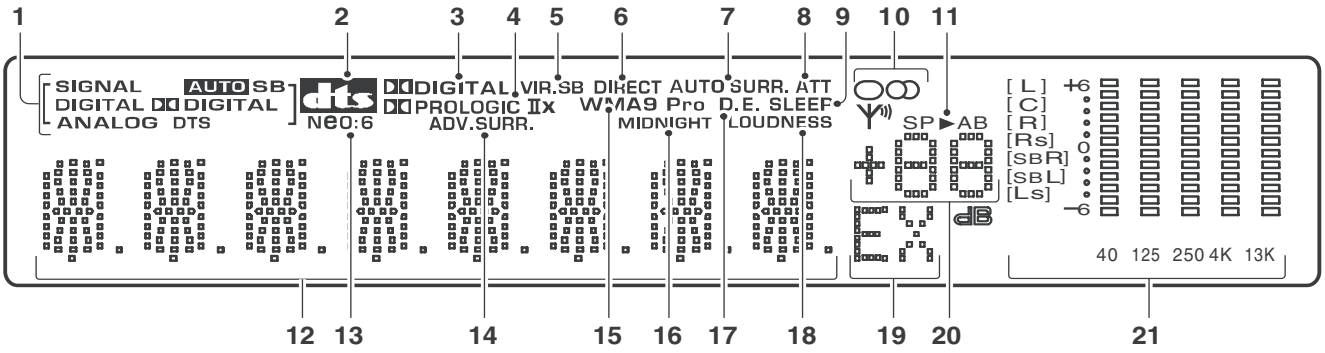
SYSTEM SETUP
Use with the **MULTI JOG** dial to access the System Setup menu.

RETURN
Press to confirm and exit the current menu.

Rear panel



Display



1 SIGNAL SELECT indicators
Lights to indicate the type of input signal:

AUTO
Lights when **AUTO** signal select is on.

SB
Depending on the source, this lights when a signal with surround back channel encoding is detected.

DIGITAL
Lights when a digital audio signal is detected.

DIGITAL
Lights when a Dolby Digital encoded signal is detected.

ANALOG
Lights when an analog signal is detected.

DTS
Lights when a source with DTS encoded audio signals is detected.

2 dts
When the **STANDARD** mode is on, this lights to indicate decoding of a DTS multichannel signal.

3 DIGITAL
When the **STANDARD** mode of the receiver is on, this lights to indicate decoding of a Dolby Digital multichannel signal.

4 PRO LOGIC IIx
When the (**STANDARD**) Pro Logic II mode of the receiver is on, **PRO LOGIC II** lights to indicate Pro Logic II decoding. **PRO LOGIC IIx** lights to indicate Pro Logic IIx decoding (see *Listening in surround sound).*

5 VIR.SB
Lights during Virtual surround back processing.

6 DIRECT
Lights when source direct playback is in use. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

7 AUTO SURR.
Lights when the Auto Surround feature is switched on (see Auto playback).

8 ATT
Lights when **INPUT ATT** is used to attenuate (reduce) the level of the analog input signal.

9 SLEEP
Lights when the sleep mode is active.

10 Tuner indicators
Lights when the mono mode is set using the **MPX** button.
Lights when a stereo FM broadcast is being received in auto stereo mode.
Lights when a broadcast is being received.

11 Speaker indicators
Lights to indicate the current speaker system, **A** and/or **B**.

12 Character display

13 Neo:6
When the (**STANDARD**) Neo:6 mode of the receiver is on, this lights to indicate Neo:6 processing.

14 ADV.SURR. (Advanced Surround)
Lights when one of the Advanced Surround modes has been selected.

15 WMA9 Pro
Lights to indicate decoding of a WMA9 Pro signal.

16 MIDNIGHT
Lights during Midnight listening.

17 D.E.
Lights when Dialog Enhancement (**DIALOG E**) is switched on.

18 LOUDNESS
Lights during Loudness listening.

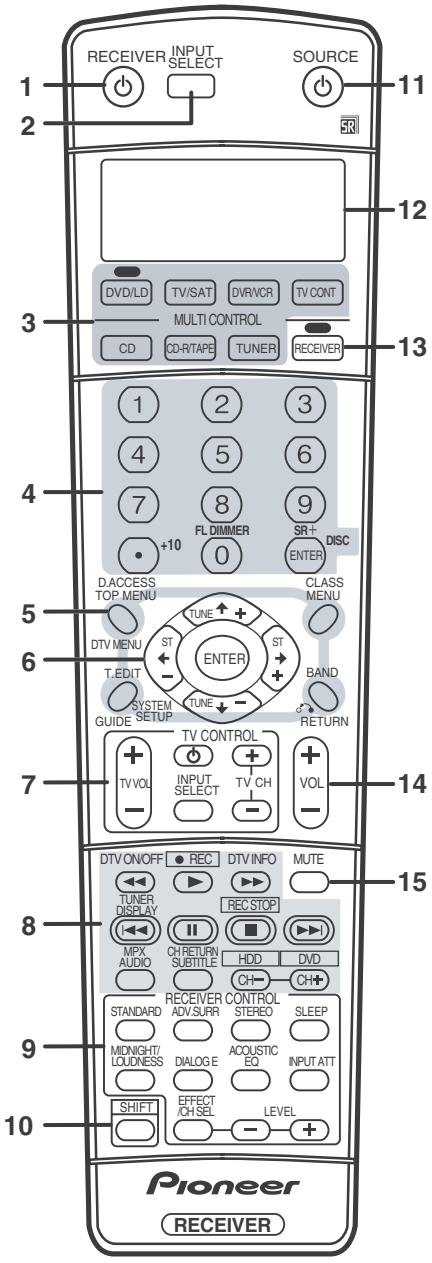
19 EX
Lights when a Dolby Digital Surround EX encoded signal is detected.

20 Master volume level
Shows the overall volume level. **---dB** indicates the minimum level, and **- 0 dB** indicates the maximum level.

Depending on your level settings for each channel, the maximum volume can range between –10 dB and –0 dB.

21 MCACC channel EQ indicators
These indicators show the EQ balance for each channel when checking your Acoustic Calibration EQ settings. See Checking your Acoustic Calibration EQ settings for more on this.

Remote control



1 RECEIVER⏻
This switches between standby and on for this receiver.

2 INPUT SELECT
Use to select the input source.

3 MULTI CONTROL buttons
Press to select control of other components (see Controlling the rest of your system).

4 Number buttons and other receiver/ component controls
Use the number buttons to directly select a radio frequency or the tracks on a CD, DVD, etc.

DISC (ENTER) can be used to enter commands for TV or DTV, and can also be used to select a disc in a multi-CD player.

The following are accessed by pressing the **RECEIVER** button first:

FL DIMMER
Dims or brightens the display.

SR+
Switches the SR+ mode on/off.

5 Tuner/component control buttons/ SYSTEM SETUP
The following button controls (except **SYSTEM SETUP**) can be accessed after you have selected the corresponding **MULTI CONTROL** button (**TUNER**, **DVD/LD**, **TV/SAT**, etc.)

D. ACCESS
After pressing, you can access a radio station directly using the number buttons.

TOP MENU
Displays the disc ëtopí menu of a DVD.

DTV MENU
Displays menus on a digital TV.

T. EDIT
Press to memorize and name a station for recall.

GUIDE
Displays the guides on a digital TV.

SYSTEM SETUP
(Press **RECEIVER** first to access)
Use to access the System Setup menu.

CLASS
Switches between the three banks (classes) of radio station presets.

MENU
Displays the disc menu of DVD-Video discs. It also displays TV and DTV menus.

BAND
Switches between the tuner AM and FM bands.

RETURN
Press to confirm and exit the current menu (also use to return to the previous menu with DVDs or to select closed captioning with DTV).

6 ←→↓↑ (TUNE/ST +/–) /ENTER
Use the arrow buttons when setting up your surround sound system. Also used to control DVD menus/options and for deck 1 of a double cassette deck player. Use the **TUNE +/–** buttons to find radio frequencies and use **ST +/–** to find preset stations.

7 TV CONTROL buttons
These buttons are dedicated to control the TV assigned to the **TV CONT** button. Thus if you only have one TV to hook up to this system assign it to the **TV CONT MULTI CONTROL** button. If you have two TVs, assign the main TV to the **TV CONT** button.

TV⏻
Use to turn on/off the power of the TV.

TV VOL +/–
Use to adjust the volume on your TV.

INPUT SELECT
Use to select the TV input signal.

TV CH +/–
Use to select channels.

8 Component control buttons
The main buttons (►,■, etc.) are used to control a component after you have selected it using the **MULTI CONTROL** buttons.

The controls above these buttons can be accessed after you have selected the corresponding **MULTI CONTROL** button (for example **DVD/LD**, **DVR/VCR** or **TV/SAT** (when connected to a DTV)).

DTV ON/OFF
Switches a digital TV on/off.

DTV INFO
Use to bring up information screens on a digital TV.

TUNER DISPLAY
Switches between named station presets and radio frequencies.

MPX
Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

AUDIO
Changes the audio language or channel on DVD discs.

CH RETURN
Returns to the last channel selected with DTV, SAT and some TVs.

SUBTITLE
Displays/changes the subtitles included in multilingual DVD-Video discs.

CH +/–
Use to select channels when using a TV, VCR, DVR, etc.

The following DVR controls can be accessed by pressing **SHIFT**:

● REC
Starts recording.

REC STOP
Stops recording.

HDD/DVD
These buttons switch between the hard disk and DVD controls for DVD/HDD recorders.

9 RECEIVER CONTROL buttons

STANDARD
Press for Standard decoding and to switch between the various Pro Logic IIx and Neo:6 options.

ADV. SURR
Use to switch between the various surround modes.

STEREO
Switches between direct and stereo playback. Direct playback bypasses the tone controls and any other signal processing for the most accurate reproduction of a source. Also selects the Auto Surround mode (Auto playback).

SLEEP
Use to put the receiver in sleep mode and select the amount of time before the receiver turns off.

MIDNIGHT/LOUDNESS
Use Midnight when listening to movie soundtracks at low volume. Use Loudness to boost the bass and treble at low volume.

DIALOG E
Use to make dialog stand out when watching TV or a movie.

ACOUSTIC EQ
Press to select an Acoustic Calibration EQ setting.

INPUT ATT
Attenuates (lowers) the level of an analog input signal to prevent distortion.

EFFECT/CH SEL
Press repeatedly to select a channel, then use **LEVEL +/–** to adjust the level. Also adjusts the level of the Advanced Surround effects as well as Dolby Pro Logic IIx Music and Neo:6 Music parameters. You can then use the **LEVEL +/–** buttons to make these adjustments.

LEVEL +/–
Use to adjust the effect and channel levels, as well as to change Dolby Pro Logic IIx and Neo:6 Music parameter settings.

10 SHIFT
Press to access the DVR controls (above the component control buttons) as well as some **RECEIVER** controls.

11 ⏻SOURCE
Press to turn on/off other components connected to the receiver.

12 Character display (LCD)
This display shows information when transmitting control signals.

The following commands are shown when youíre setting the remote to control other components (see Controlling the rest of your system):

SETUP
Indicates the setup mode, from which you choose the options below.

PRESET
See Selecting preset codes directly.

LEARN
See Programming signals from other remote controls.

DIRECT F
See Direct function.

ERASE
See Erasing one of the remote control button settings.

RESET
See Erasing all of the remote control presets.

READ ID
See Confirming preset codes.

13 RECEIVER
Switches the remote to control the receiver (used to select the green commands above the number buttons (**FL DIMMER**, etc). Also use this button to set up surround sound.

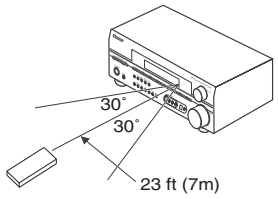
14 VOL +/–
Use to set the listening volume.

15 MUTE
Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).

Operating range of remote control unit

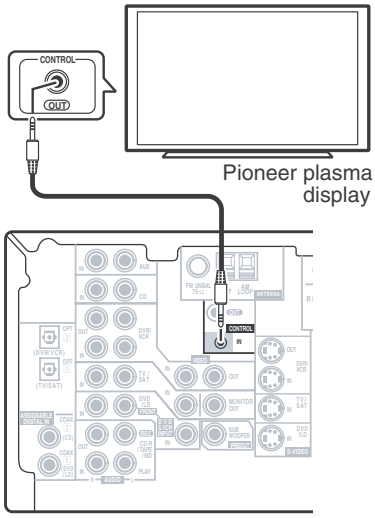
The remote control may not work properly if:

- There are obstacles between the remote control and the receiver's remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- The receiver is located near a device that is emitting infrared rays.
- The receiver is operated simultaneously with another infrared remote control unit.



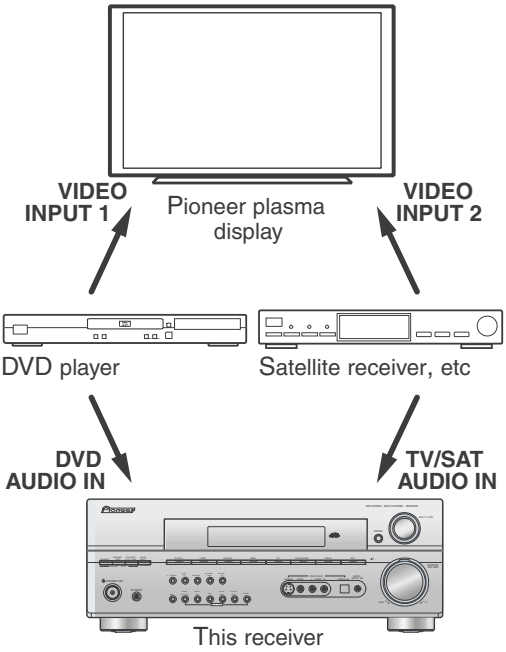
Using this receiver with a Pioneer plasma display

If you have a Pioneer plasma display[1], you can use an SR+ cable[2] to connect it to this unit and take advantage of various convenient features, such as automatic video input switching of the plasma display when the input is changed.



• Use a 3-ringed miniplug SR+ cable to connect the CONTROL IN jack of this receiver with the CONTROL OUT of your plasma display.

Before you can use the extra SR+ features, you need to make a few settings in the receiver. See The Input Assign menu for detailed instructions.



To make the most of the SR+ features, you should connect your source components (DVD player, etc.) in a slightly different way to that described in this chapter.

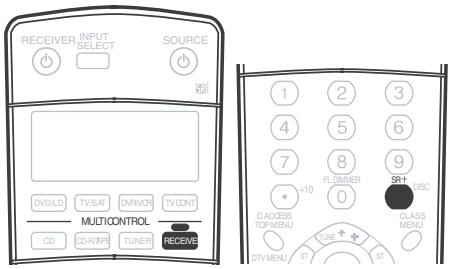
For each component, connect the video output directly to the plasma display, and just connect the audio (analog and/or digital) to this receiver.

Using the SR+ mode with a Pioneer plasma display

When connected using an SR+ cable, a number of features become available to make using this receiver with your Pioneer plasma display even easier. These features include:

- On-screen volume display.
- On-screen display of listening mode.
- Automatic video input switching on the plasma display.
- Automatic volume muting on the plasma display. [1]

See also The Input Assign menu for more on setting up the receiver.



1Make sure that the plasma display and this receiver are switched on and that they are connected with the SR+ cable.

See Using this receiver with a Pioneer plasma display above for more on this.

2To switch SR+ mode on/off, press RECEIVER, then the SR+ button.

The front panel display shows **SR+ ON** or **OFF**.

Note

1 This receiver is compatible with all Pioneer plasma displays from 2003 onward.

2 • The 3-ringed SR+ cable from Pioneer is commercially available under the part number ADE7095. Contact the Pioneer Customer Support division for more information on obtaining an SR+ cable (you can also use a commercially available 3-ringed mini phone plug for the connection).

• If you connect to a Pioneer plasma display using an SR+ cable, you will need to point the remote control at the plasma display remote sensor to control the receiver. In this case, you won't be able to control the receiver using the remote control if you switch the plasma display off.

3 The automatic volume muting feature is enabled separately; see The Input Assign menu.

SERVICE PARTS

• SR+ mini-plug cable (ADE7095)